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ABSTRACT

Economic and demographic shifts in Appalachia show that overall conditions in the region are improving. This July 1972 economic report presents major changes in Southern Appalachia, Central Appalachia, Highlands Appalachia, and Northern Appalachia. The report includes (1) a summary of the previous year's economic report covering employment from 1965 to 1969, income from 1965 to 1968, and population growth over the 1960s; (2) a description and analysis of the most recent available trends in employment, work force, and unemployment (1969-70); (3) a discussion of the 1971 trends in Appalachia's 16 major labor market areas; (4) recent developments in income sources and growth (1968-69) and shifts in poverty in Appalachia over the 1960s; (5) a comparison of migration patterns in 1960-65 and 1965-70; and (6) a brief discussion of the quantity and quality of housing in Appalachia (based on 1970 census data). The analyses of income, employment, and migration do not cover the same years, owing to the varying availability of data. A list of the counties in the 4 regions of Appalachia is appended. The report contains tables and graphs of data. (NQ)

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APPALACHIA - AN ECONOMIC REPORT

Trends in Employment, Income and Population

July 1972

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Appalachian Regional Commission
1666 Connecticut Avenue, N.W.
Washington, D. C. 20235

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PREFACE

APPALACHIA: AN ECONOMIC REPORT - July 1, 1972 was prepared by members of the Appalachian Regional Commission staff to assess recent demographic and economic trends occurring in the Appalachian Region. Kathleen Hamm had overall analytical and editorial responsibility for the report. Mrs. Hamm wrote the sections on employment and housing; Eli March, the section on work force mobility; Michael Newton, the subsections on employment trends in major labor market areas and income trends; and Dr. Jerome Pickard, the subsection on poverty.

I. INTRODUCTION

The President's Appalachian Regional Commission in 1964 described the Region as an area which, although rich in natural resources and economic potential, had seriously lagged behind the rest of the nation in its economic development and in improvements in its average standard of living. The Presidential Commission further stated that the Region, historically dependent on a few basic industries and a marginal agricultural sector, did not have the economic base required for a strong, self-sustaining pattern of growth. Based on the Commission's findings, in 1965 Congress created the Appalachian Regional Commission (ARC) as a federal-state partnership for the purpose of inducing orderly, accelerated economic and social development. Efforts to achieve this purpose have focused on the development of Appalachia's human and natural resources, the provision of improved transportation systems and other basic infrastructure and, where necessary, the organization of new institutional structures to plan and carry out economic and social development programs. The purpose of this report is to present an analysis of recent economic and social trends in the Region and, through that analysis, provide an indication of Appalachia's progress in accelerating its development and improving economic conditions.

Conditions within Appalachia have been improving. From 1965 to 1970, employment grew by +9.0% or approximately 546,000 jobs. The unemployment situation has improved significantly relative to the nation. In 1970, a year in which economic growth slowed markedly throughout the United States, the national unemployment rate rose to 4.9% while, in Appalachia, unemployment rose to 5.0% -- only slightly higher than the national rate. This is in direct contrast with the experience of the late 1950s and early 1960s when unemployment in the Region was substantially higher than in the nation. For example, in 1962 unemployment in the United States measured 5.5% compared to 8.6% in Appalachia.

Stimulated by the growth in employment, total personal income rose in the Region by +36.1% or over $14 billion between 1965 and 1969. Finally, again in large part due to the increased availability of employment

opportunities, the level of net outmigration during the 1960s was only one-half that of the previous decade.

The remainder of this report is organized in the following manner. Section II presents a summary of the previous year's economic report on the Appalachian Region, covering employment from 1965 to 1969, income from 1965 to 1968, and population growth over the 1960s. Section III contains a description and analysis of the most recent available trends in employment, work force, and unemployment (1969-1970), as well as a discussion of the 1971 trends in Appalachia's 16 major labor market areas. Recent developments in income sources and growth (1968-1969) and shifts in poverty in Appalachia over the 1960s are discussed in section IV. A comparison of migration patterns in 1960-1965 and 1965-1970 is included in section V and a brief discussion of the quantity and quality of housing in Appalachia (based on 1970 census data) is contained in section VI. The analyses of income, employment and migration do not cover the same years due to the varying availability of data. Finally, a summary of this report will be presented in section VII.

II. SUMMARY - ECONOMIC REPORT, 1970

The Executive Director's economic report on the Appalachian Region for 1970 1/ showed that important changes with encouraging implications have been taking place within the Region. 2/ From 1965 to 1969, the unemployment rate in Appalachia fell from a high of 5.1% to a period low of 3.9%. This represents a slight improvement in the Region's unemployment situation relative to the national situation, as the difference between the two rates also declined (see Graph II-A, page 6).

Employment growth was reasonably strong in Appalachia throughout 1965 to 1969, increasing by +8.6% or over 520,000 jobs. However, the pattern of annual employment growth was more volatile than that of the nation, indicating that the Region is still relatively responsive to shifts in national business trends. This is not surprising given the high concentration here of manufacturing employment, including many types of manufacturing which are sensitive to changes in the overall national trend (e.g., capital goods, intermediate products). Growth in Appalachia's total work force between 1965 and 1969 was approximately +7.2% (463,000 workers) compared with a national growth of +8.4% (see Graphs II-B and II-C, page 6).

Regional trends in population and income also provide some encouraging signs and, in several ways, reflect the growth which has occurred in employment. The 1970 census shows that total population in the Region increased by +2.7% over the decade of the 1960s. This is a slight

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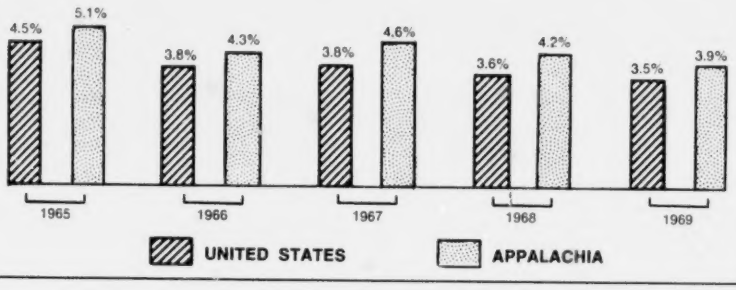
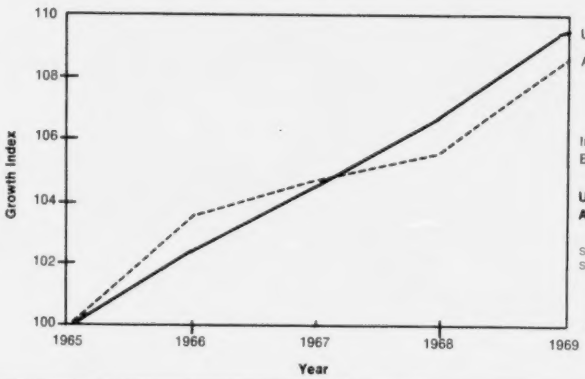
1/ Copies of Appalachia: An Economic Report - 1970 are still available for $1.00 from the Appalachian Regional Commission, 1666 Connecticut Avenue, N. W., Washington, D. C. 20235.

2/ The time periods examined in the analysis of employment, population and income are not the same, though they overlap. This is unfortunate but necessary due to the limited availability of some data.

GRAPH II—A
The Rate of Unemployment in Appalachia and the United States, 1965-1969



GRAPH II—B
Growth Trends in Employment 1965-1969



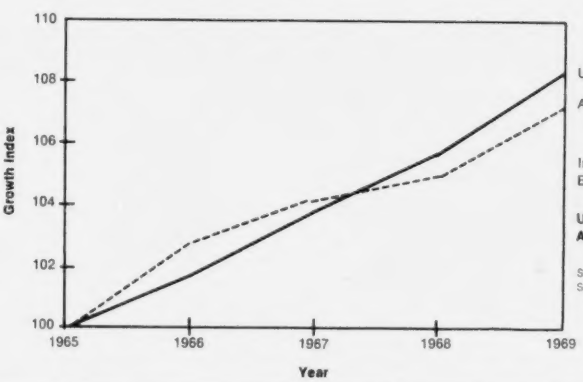
United States (109.6)
Appalachia (108.6)

Index: Base Year = 1965 = 100
Base Year Employment For:

United States **71,088,000**
Appalachia **6,075,000**

Source: State Bureaus of Employment Security and Bureau of Labor Statistics

GRAPH II—C
Growth Trends in Work Force, 1965-1969



United States (108.4)
Appalachia (107.2)

Index: Base Year = 1965 = 100
Base Year Work Force For:

United States **74,455,000**
Appalachia **6,398,000**

Source: State Bureaus of Employment Security and Bureau of Labor Statistics

increase over the growth of the previous decade (+2.0%), and significantly less than the national growth rate of +13.3% (measured from base year 1960).

Although the rate of growth in population has remained relatively stable over the past two decades, the components of population change have altered significantly. Net outmigration from Appalachia in the 1960s (approximately 1.1 million) was only half that of the previous decade. Net migration is often used as an indicator of the economic health of a region insofar as labor tends to migrate toward economic opportunity. The slowing of outmigration is further evidence of increasing economic opportunities within the Region, enabling the accommodation of a larger labor force. The positive influence of decreasing net outmigration on population change 3/ was largely offset by a decline in the natural rate of increase (births minus deaths). A significant share of this decline is attributable to the population age structure which resulted from past outmigration of young adults, leaving a disproportionate share of the very young, middle-aged and old in the Region. 4/ (See Graphs II-D and II-E, page 8. These graphs depict mean growth rates, not simple growth rates. See note on graphs).

Between 1965 and 1968, per capita income in Appalachia continued to gain relative to the U. S. per capita income, rising from 79.3% of the national figure to 79.9%. 5/ Thus, the Region's per capita income not only kept pace with the national growth, but slightly surpassed it. Total income, however, grew more slowly in the Region, increasing by +25.7% compared to a national increase of +27.8% 6/ (see Graph II-F, page 9).

The Appalachian Region varies widely with respect to the economic structure, growth trends, and stage of development characteristic of its different subregions. Therefore, rather than attempting to make sweeping generalizations about the Region as a whole, the following discussion has

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3/ Population change equals births minus deaths minus net outmigration.

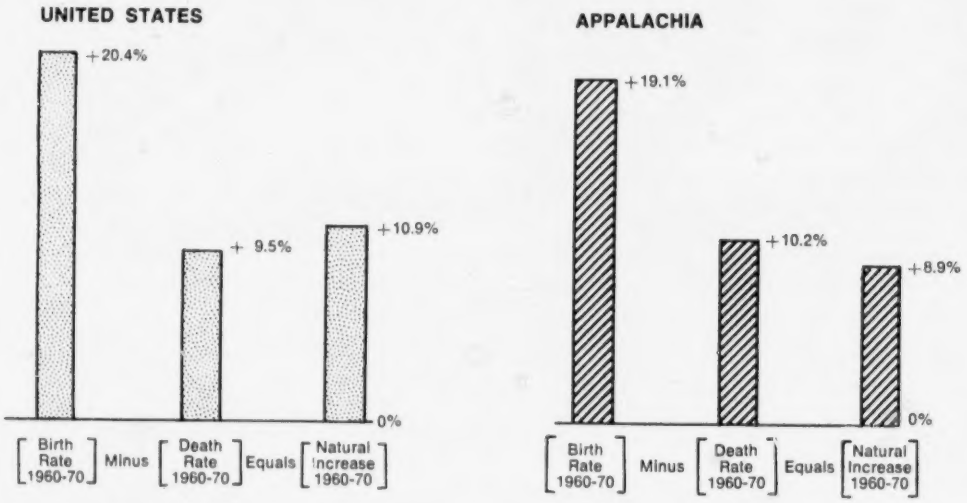
4/ See Current Statistical Report, Numbers I, II and IV for more complete discussions of population change. These reports are available from the Appalachian Regional Commission.

5/ Unless otherwise noted, all income data in this report are adjusted to place of residence. In previous reports, income has been presented on a place of work basis.

6/ The pattern and character of outmigration from the Region have undoubtedly affected the growth in per capita and total income. However, the magnitude and directions of this influence cannot be determined without a more specific knowledge of the Region's migration patterns than is presently available.

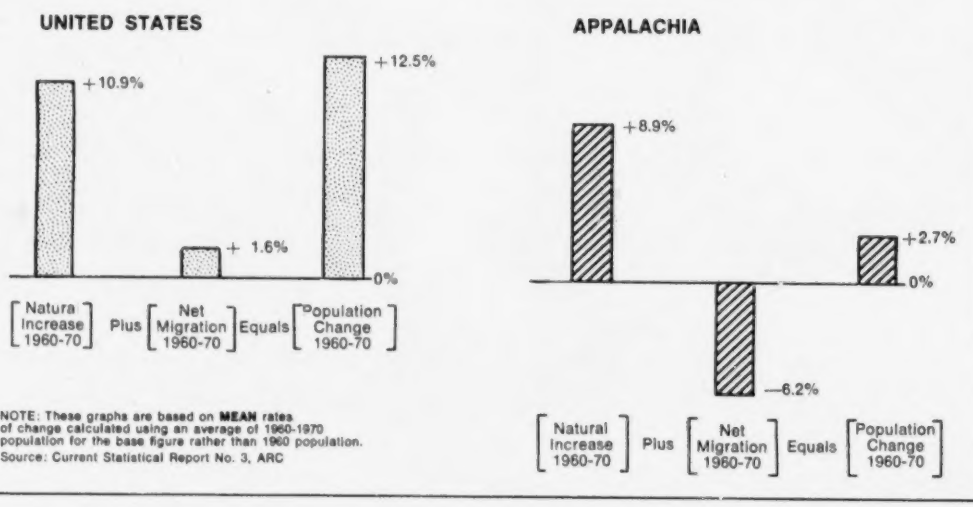
COMPONENTS OF POPULATION CHANGE
1960-1970

GRAPH II—D
Rate of Natural Increase in Population



See important note on Graph II—E
Source: Current Statistical Report No. 3, ARC

GRAPH II—E
Mean Population Change

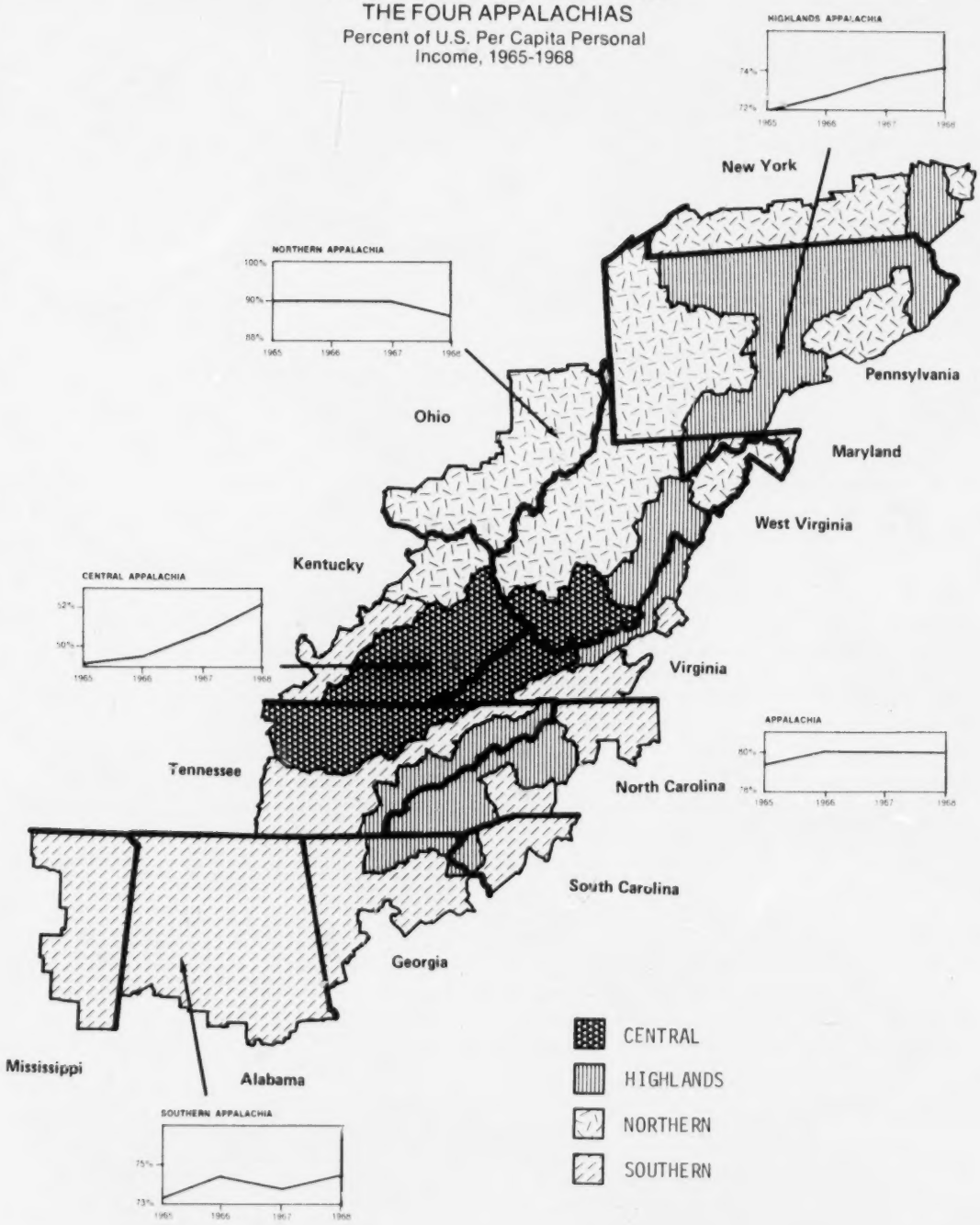


NOTE: These graphs are based on **MEAN** rates of change calculated using an average of 1960-1970 population for the base figure rather than 1960 population.
Source: Current Statistical Report No. 3, ARC

GRAPH II—F

THE APPALACHIAN REGION AND THE FOUR APPALACHIAS

Percent of U.S. Per Capita Personal Income, 1965-1968



focused on events in the four Appalachias: Southern Appalachia, Central Appalachia, the Highlands, and Northern Appalachia (see Map, page 9).

Southern Appalachia

Of the four subregions, Southern Appalachia has produced the highest and most satisfactory pattern of growth. From 1965 to 1969, total employment grew by +11.2% while the work force increased by +10.2%, growing in each case more rapidly than the nation or any other Appalachian subregion. The pattern of unemployment was also reasonably satisfactory here. The unemployment rate in Southern Appalachia has generally been below that of the other subregions and was less than or equal to the national rate in three of the five years studied, declining from a high of 4.3% in 1965 to a low of 3.4% in 1969.

Growth in population and income were both consistent with the favorable employment situation. Southern Appalachia's population increased by +9.8% over the decade, a rate below the U. S. growth but significantly higher than that of the other subregions. Total income growth from 1965 to 1968 was also relatively high, increasing by +28.6% compared to a national growth of +27.8%. Growth in per capita income was somewhat lower but still surpassed the U. S. performance, rising as a percent of national per capita income from 73.3% in 1965 to 74.5% in 1968.

In order to more fully understand the following discussion on the structure of employment in Southern Appalachia, it is necessary to digress into a brief but important definition of the data used. The data series 7/ on the structure of employment in the major industrial groups 8/ includes only wage and salary employees who are covered by the Federal Insurance Contributions Act and who work for private nonfarm employers or nonprofit organizations. The data do not include government employees, self-employed individuals, farm workers, domestic service workers, railroad employees or individuals employed on oceanborne vessels. In 1969, employment in the major industrial groups represented approximately 70% of total employment in the Appalachian Region.

7/ This series is based on data obtained from the County Business Patterns, 1965-1969, published by the Bureau of the Census. The data were adjusted to include estimates of employment unavailable due to a federal prohibition against the publication of data disclosing the operations of an individual employer.

8/ The major industrial groups are separated into the following classifications: manufacturing, mining, contract construction, transportation and other public utilities, wholesale and retail trade, finance, insurance, real estate, services, forestry, fisheries, agricultural services, and unclassified establishments.

Employment in the major industrial groups in Southern Appalachia increased by over +20% from 1965 to 1969, surpassing the growth of the other subregions and the nation. Growth in major industrial group employment was also significantly greater than Southern Appalachia's growth in total employment, indicating an important transition in this economy: as development proceeds, employment shifts out of the relatively small-scale, labor-intensive, low wage and skill types of employment 9/ characteristic of early stages of development into the more complex and capital-intensive, larger-scale, and higher wage and skill types of production 10/ characteristic of more highly developed economies. This process has been occurring in Southern Appalachia since the 1950s and has continued through 1965-1969.

Manufacturing employment in this subregion increased at the highly satisfactory rate of +19.1% from 1965 to 1969. Though the structure of manufacturing in some portions of Southern Appalachia is still characterized by heavy concentrations in primary types of manufacturing (e.g., textiles, lumber and wood products), many areas are becoming increasingly diversified. Growth has centered on industries directly related to the existing primary base (e.g., synthetic fibers, textile machinery) as well as many new areas which do not have a direct relationship (e.g., transportation equipment, other capital goods). This strong growth and process of diversification represents an encouraging trend.

Southern Appalachia also produced a significant rise in employment in financial institutions, insurance, real estate and services (+29.7%). This growth was most likely stimulated by the strong growth in manufacturing, resulting in an increased effective demand for services, etc., by both individuals and business. A second factor influencing growth in this sector may have been its own previous lack of development resulting in an accumulation of past demand pressures.

Although employment in the trade sectors grew more rapidly here than in the other subregions, this sector of employment did not keep pace with growth in the other industrial groups. This is not, however, surprising. As economic growth occurs, population tends to relocate toward the growing areas forming larger, more concentrated groupings. In the case of retail trade, the market size eventually becomes large enough to support retail business of other than small, family businesses or single-proprietorships with no employees, 11/ and the retail trade sector expands. A parallel

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9/ For example, small-scale agriculture, domestic service and family operated retail trade establishments which are not included in the major industrial groups.

10/ Examples include capital goods industries and multiemployee trade establishments which are included in the major industrial groups.

11/ Not included in the major industrial group data.

argument can be made for growth in the wholesale sector where the market is made up of retail businesses as well as industrial, commercial, institutional and professional establishments. Thus, growth in both trade sectors tends to lag behind development in other sectors. The growth which did occur was associated with the location of growth in other types of employment (1965-1969) and with increasing population concentration (over the decade of the 1960s). Employment in transportation and other public utilities also experienced significant growth, increasing in response to factors similar to those stimulating growth in trade.

Employment in Southern Appalachia's contract construction industry grew less than in the other subregions, but surpassed the U. S. growth by over 6 percentage points. Annual trends in this sector generally followed the national pattern. Mining as a share of major industrial group (County Business Patterns) employment is of relatively small importance here, declining by over -8% from 1965 to 1969.

Central Appalachia

Although the overall growth pattern produced by Central Appalachia was less than satisfactory, there were some encouraging signs. Total employment and the labor force grew relatively slowly between 1965 and 1969 (+6.9% and +3.3%, respectively) and, although the rate of unemployment remained high, it declined consistently over the period from 10.6% in 1965 to 7.5% in 1969. Per capita income has been very low in this subregion (46.8% of the U. S. average in 1959), but has recently experienced an acceleration in growth. From 1965 to 1968, per capita income grew by over +30% and rose from 49.2% of the national figure to 52.1%. Total income growth also accelerated over this period, although it has grown more slowly than in the United States. Central Appalachia was the only subregion which experienced a net loss of population (-10.7%) over the decade of the 1960s.

An examination of trends in the major industrial groups provides a further mixture of encouraging and unfavorable trends. Manufacturing is a small sector of employment here relative to the other subregions and has been concentrated in production areas often characteristic of an early development stage (textiles, leather products, etc.). As indicated earlier, this type of production often precedes expansion into other related industries of a more complex nature. The occurrence of this phenomenon in Central Appalachia will depend on the capacity of this area to provide an adequate and efficient supply of the inputs necessary for new industry and on the size and accessibility of markets. The latter is a reference not only to the local market, but to the ability of firms to easily and profitably transport their goods to more distant urban markets. Employment in manufacturing grew by over +18% from 1965 to 1969, increasing in such areas as textiles, fabricated metals, electrical equipment, and instruments.

The mining industry contained the largest share (28%) of employees in the major industrial groups in 1965 and, as a result, events in this sector had a significant impact on the total economic environment and on events in other sectors. Mining employment, largely as a result of changing technology and shifting markets, declined by almost -8% over the period 1965-1969 and thus exerted a depressive effect on the Central Appalachian economy.

Employment in finance, insurance, real estate and services grew significantly, increasing by over +43% from 1965-1969. This growth was strongest in the service industries, primarily in medical and other health services and in nonprofit membership organizations. The growth in medical and health services has been stimulated in part at least by the placement and operation of ARC health projects in Central Appalachia. Employment growth in nonprofit membership corporations has been largely a result of the growth in local Community Action Agencies and their training and employment generating programs.

As in the Highlands, wholesale and retail trade grew relatively slowly. This can be attributed to the pattern of population dispersion, the slow trend toward urbanization and the depressive impact of the mining industry. The slow growth in transportation and public utilities employment may also be attributed to these factors. That growth which did occur was located in those areas experiencing the highest manufacturing growth and least decline in mining. As is the case in the Region in general, employment in the contract construction industry grew very well, surpassing but generally following the direction of the U. S. annual trend.

Highlands Appalachia

The growth pattern produced by Highlands Appalachia from 1965 through 1969 was encouraging. Total employment and the labor force both experienced strong growth, surpassing the national performance in both cases. 12/ Unemployment was consistently higher than in the nation, but declined from 5.2% in 1965 to 4.2% in 1969. Influenced by the improving employment situation, the population of this subregion increased by +5.7% over the decade of the 1960s. Total income, a reflection of population and employment growth, increased in the Highlands by +29.5% from 1965 to 1968. At the same time, per capita income increased from 72.0% of the U. S. figure in 1965 to 74.3% in 1968.

Employment in the manufacturing sector grew significantly in the Highlands, increasing by +19.5% between 1965 and 1969. Due to the widely

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12/ Employment growth in the Highlands, 1965-1969: 10.6%, United States: 9.6%; work force growth in the Highlands, 1965-1969: 9.5%, United States: 8.4%.

differing characteristics of manufacturing in various portions of the Highlands, this discussion will focus on the following distinct geographic areas: the northern Highlands, 13/ characterized by a relatively large manufacturing sector having a reasonably diverse overall character, but with some concentration in the production of investment and intermediate goods; the southern Highlands, characterized by a reasonably large manufacturing sector concentrated in primary types of production (textiles, food products, etc.); and the central Highland areas, which have a relatively small manufacturing sector, generally involved in primary production. Over half of the Highlands' growth in manufacturing employment occurred in the southern areas. This growth, as in Southern Appalachia, was concentrated in the existing base of primary production and in several new areas linked to those industries either as their suppliers or as users of their output. The northern areas produced approximately 45% of the growth in this sector, experiencing increases in a variety of production types. The central areas did not grow significantly in manufacturing employment.

Employment in financial institutions, insurance, real estate and services grew very well in the Highlands. As in Southern Appalachia, growth in this sector was most likely stimulated by increasing demand associated with strong growth in the manufacturing sector and an accumulation of past demand associated with the existence of a relatively underdeveloped sector. The trade sectors, on the other hand, did not grow significantly in the Highlands. As in other areas of the Region, this was apparently associated with the slow trend toward increasing concentrations of population and thus toward the creation of markets of profitable size. The growth in trade sector employment which did occur was associated with growth in manufacturing employment and increasing population concentration. The moderate to low growth in transportation and public utilities employment was associated with these same factors.

The Highlands experienced strong growth in employment in the contract construction industry, increasing by +22% over the period. Here, as is usually the case in the Region, the annual growth pattern followed that of the nation, slowing in 1966-1967 as credit conditions tightened and manufacturing and investment growth slowed, and accelerating in 1967-1968 with their recovery. Mining employment declined for this subregion over the period, although some state areas (Pennsylvania, North Carolina and Virginia) did experience positive growth.

13/ The northern Highland areas include the Highland portions of Pennsylvania and New York; the central areas include the Highland portions of Virginia, West Virginia and Maryland; and the southern areas include the Highland areas of Georgia, North Carolina, South Carolina and Tennessee.

Northern Appalachia

In some ways, Northern Appalachia experienced the least satisfactory pattern of growth. Total employment grew here at a slower rate than any other subregion, increasing by +6.5% from 1965 to 1969, while the labor force increased by only +5.2%. However, unemployment has been low relative to other areas and, though it has been higher than in the nation, the unemployment rate did not surpass the U. S. rate by more than 0.5 percentage points between 1965 and 1969. Population remained relatively constant over the 1960s while both per capita and total income grew more slowly here than anywhere else in the Region (1965 to 1968).

Manufacturing employment grew by +6.5% in Northern Appalachia (1965-1969), representing the slowest growth for the period in Appalachia and a growth significantly less than the national performance (+14.8%). The most striking characteristics of Northern Appalachia's manufacturing sector are its tendency to follow national trends, its relative volatility, and its tendency to remain below the U. S. annual rate of growth. These characteristics are not unexpected given the concentration of a significant share of Northern Appalachia's manufacturing in capital goods and intermediate products, two types of production which are highly responsive to shifts in the national trend. Secondly, a heavy concentration of manufacturing has existed in this subregion for a long period of time, implying the likely existence of a number of firms using relatively old and inefficient technologies. Such firms are the first to decrease output in an economic downturn and the last to increase output in an upturn. The growth which did occur in Northern Appalachia was spread over a number of relatively diverse areas.

Employment in financial institutions, insurance, real estate and services experienced a moderate growth of +22.2% from 1965 to 1969. Growth here was again correlated with two factors: the growth in manufacturing, which in this case was relatively slow; and the high level of development already present in this sector. Growth in wholesale and retail trade employment was somewhat better, but still moderate. However, given the slow growth in manufacturing and the existence of reasonably established urban patterns within Northern Appalachia, it is surprising that employment in trade grew as rapidly as it did. Again, growth was highest in those areas experiencing the largest absolute increase in manufacturing and total employment, as well as increasing concentrations of population (although the relationship with the latter factor is weaker). The transportation and public utilities sector produced a low to moderate employment growth for reasons similar to those influencing the trade sector. Contract construction employment, on the other hand, produced the highest rate of growth over the period 1965-1969 of any subregion and surpassed the national rate by 20 percentage points. Mining employment, relatively important as a percent of employment in some areas of Northern Appalachia, declined by over 8% from 1965 to 1969, again largely as a result of technological change.

Conclusions

The Region is indeed diverse with respect to its economic characteristics, patterns of economic development and problems which must be faced and solved if development is to continue. Southern Appalachia has been experiencing a relatively rapid changeover from an agricultural, resource-based economy to one with more stable and expanding manufacturing, service and trade sectors. The challenge here is to insure a continuation of this trend and eliminate possible constraints to future development (e.g., environmental problems, immobility in the labor market resulting in labor shortages in some areas and surpluses in others). At the same time, diversity within the industrial structure must be encouraged in order to avoid the problem of too great a dependence on a single class of industry (e.g., the impact of the aerospace industry decline on Huntsville, Alabama). The process of transition from a rural, agricultural, resource-based economy to one characterized by strong and diverse manufacturing, service and trade sectors is also occurring in Central Appalachia. However, this process has been occurring at a much slower pace than in Southern Appalachia due to the greater severity of the development problems faced by this subregion. Northern Appalachia's problems are quite different from either Central or Southern Appalachia and focus on the need to continue the diversification of the manufacturing sector into areas less responsive to shifts in national trends. A second set of problems revolves around attempts to accelerate the transformation of the existing industrial structure into more modern and efficient production methods. The Highlands, which runs the full length of Appalachia and contains characteristics similar to each of the other subregions, must face a combination of problems similar to those found in Southern, Central and Northern Appalachia.

III. RECENT TRENDS IN EMPLOYMENT, UNEMPLOYMENT AND THE WORK FORCE

In the nation as a whole, employment growth from 1969 to 1970 was held back by a general slackening of demand, resulting in part at least from federal anti-inflation policies, a sharp decline in federal expenditures for defense and aerospace activities, and a major strike in the auto industry. High costs and uncertainty about future economic conditions combined with the softening of demand to significantly slow growth in business fixed investment and inventories, while residential construction declined. As a consequence of this combination of economic conditions, real gross national output decreased slightly in 1970 (-0.5%) and employment rose only moderately, increasing by 725,000 jobs or +0.9%. In contrast, between 1968 and 1969, total employment in the nation increased by 1,982,000 jobs or at a rate of +2.6%.

This limited employment growth was inadequate to accommodate the substantial rise in the work force which occurred from 1969 to 1970. A large reduction in the size of the Armed Forces combined with the normal growth of the population and the increased participation of women in the job market to increase the total work force by 1,982,000 people (+2.5%). The outcome was a sharp rise in unemployment during 1970: the average number of unemployed rose from 2,831,000 in 1969 to 4,088,000 in 1970, while the unemployment rate rose from 3.5% to 4.9%. These developments had an uneven impact on major industrial sectors and geographic areas.

The experience of Appalachia as a whole in 1970 was similar to that of the nation. Employment growth slowed significantly in the Region, declining from an annual rate of +2.7% in 1968-1969 (representing an additional 174,100 jobs) to +0.4% in 1969-1970 (an additional 25,700 jobs). At the same time, growth in the work force slackened, but still remained significantly higher than the growth in employment. From 1969 to 1970, the work force increased by 113,800 people (+1.7%) compared with a growth of 144,600 people from 1968 to 1969 (+2.2%). As a consequence, the unemployment rate in Appalachia rose from an annual average of 3.9% (265,100 people) in 1969 to 5.0% (347,700 people) in 1970, a rate only slightly above the average for the nation.

The unemployment picture in Appalalachia may not, however, be as satisfactory relative to the nation as the above figures indicate. Preliminary estimates based on the 1970 census 14/ indicate that, including the hidden unemployment factor, the "real" unemployment rate in the Appalachian Region may have been as high as 12% (912,000 people) in 1970. The official unemployment rate of 5% represents the difference between the number of individuals reported in the work force and the employed. Hidden unemployment refers to unemployment which exists but goes unreported because the individuals involved either never enter or have dropped out of the work force, even though they are capable of performing work.

It must be emphasized that the procedure used to estimate unemployment including the hidden unemployment factor is very rough and involves the assumption that work force participation rates in Appalachia should approximate the national averages (they are significantly below the national figures). However, even this rough estimate serves to underline the fact that the unemployment problem in the Region may be much greater than that indicated by the official data. This is important in two respects: it indicates that the Region has a fairly substantial reserve supply of workers potentially available for industrial and economic expansion; and, it points to a question which must be examined for its policy implications -- why are work force participation rates in Appalachia so much lower than the average rates for the nation?

There are several possible responses to the latter point, each of which implies a different public policy emphasis. For example, existing high unemployment and a lack of job opportunities can effectively convince the individual that it would be futile to enter the work force and search for employment because "there are no jobs available anyway." Given the national employment context, this situation implies the need for public investments directed toward the economic and industrial development of selected areas within Appalachia having a reasonable potential for growth. A lack of skills appropriate to current employment needs or poor health can also discourage or prohibit the individual from seeking work. Policy and program efforts implied here include the provision of an adequate basic education, vocational and technical education (including job retraining), and the increased availability of health services and education to the Appalachian population. Another possibility is the dispersed

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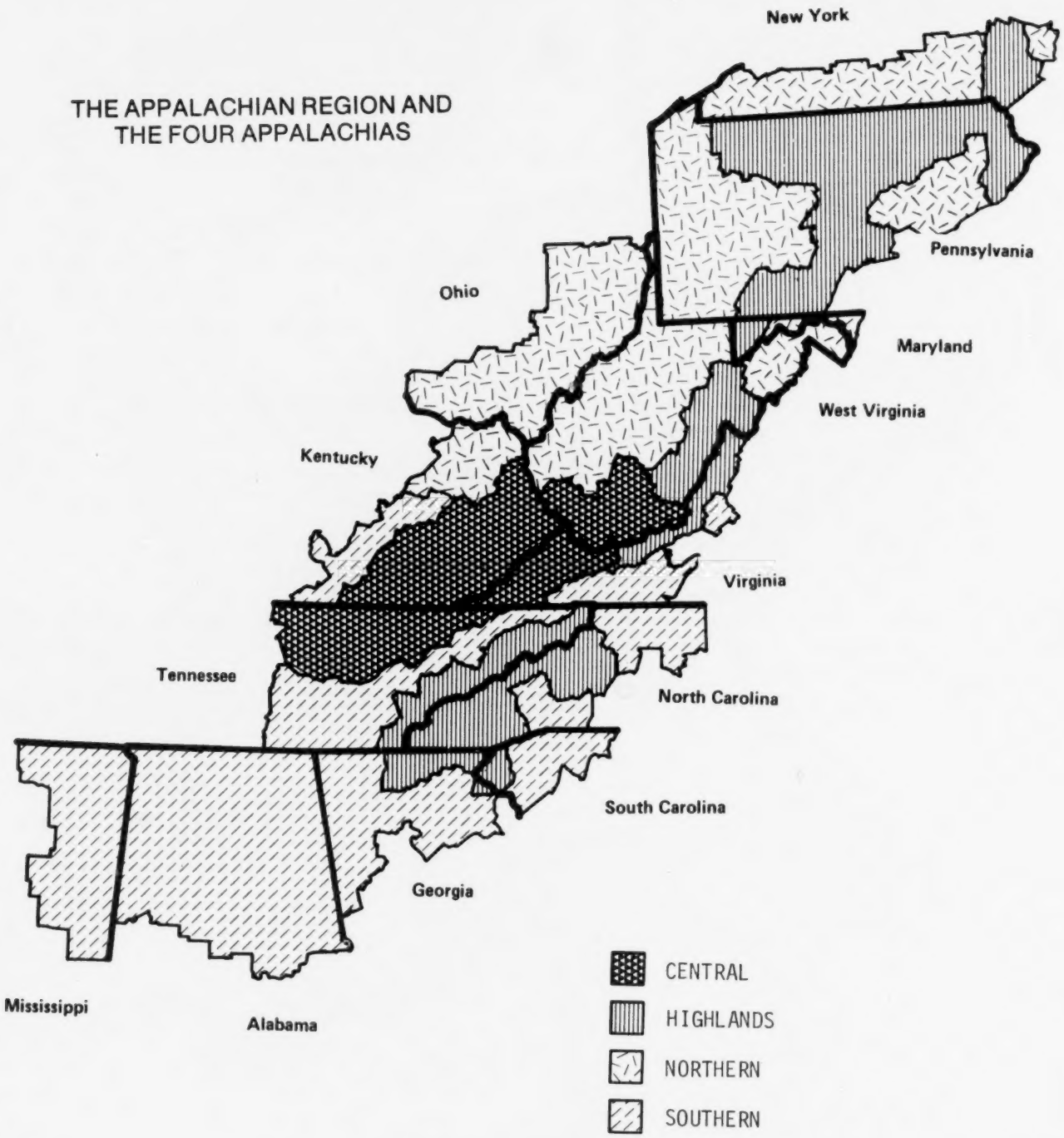
14/ Estimates for unemployment including the hidden unemployment factor were made by applying national labor force participation rates (broken down by age and sex) to appropriate population groupings in Appalachia to get an estimated or potential work force, and then subtracting actual employment from the estimated work force figure. Closer approximation of hidden unemployment will be possible when the fourth count census data are available.

pattern of population location in many of the Region's rural areas which, in combination with a lack of adequate transportation, can make it extremely difficult for an individual to reach areas of potential employment. As a result of this inaccessibility, the individual may be effectively discouraged from entering the work force and looking for a job. Policy implications here include improved primary and secondary roads and the development of a rural transit system. Finally, if it is shown that labor force participation rates for women are significantly lower than in the nation, it may be that there is a pool of women with young children who would look for work if there were adequate child care facilities available. The policy implications are obvious.

This discussion reflects only a portion of the possible explanation for Appalachia's relatively low work force participation rates but, together with the possible magnitude of the "hidden employment" problem, it serves to illustrate the importance of the situation and the relevance of further study in this area.

As mentioned previously, the impact of the 1970 economic slowdown varied greatly between major industrial sectors and geographic areas. This is especially noticeable within Appalachia, a heterogeneous area exhibiting wide variation with respect to the economic structure, trends, and stage of economic development prevalent in different portions of the Region. In order to allow a more sophisticated and satisfactory discussion of events within Appalachia, the following four subsections will focus on recent trends in the four Appalachian subregions (a rough division of the Region into four areas sharing generally similar characteristics and problems). 15/ A general summary of conditions within the Region is presented in Section VII.

15/ See page 20 for a map of the four Appalachias, and the Appendix, pages A-1 - A-5, for a list of the counties in each subregion.


THE APPALACHIAN REGION AND
THE FOUR APPALACHIAS
New York
Pennsylvania
Ohio
Maryland
West Virginia
Kentucky
Virginia
Tennessee
North Carolina
South Carolina
Georgia
Mississippi
Alabama
CENTRAL
HIGHLANDS
NORTHERN
SOUTHERN

Southern Appalachia 16/

The Southern Appalachian states weathered the national economic slowdown during 1970 relatively well. Although the annual rate of growth in employment declined here as it did in the nation as a whole, dropping from +3.5% over the period 1968-1969 to +1.0% in 1969-1970, Southern Appalachia did not fall below the national rate and was one of only two Appalachian subregions which maintained positive growth. Employment in this subregion increased by 24,200 17/ jobs compared with a net increase of 25,700 jobs throughout the Region and an increase in the previous year of 78,000 jobs. The work force in Southern Appalachia grew more slowly in 1969-1970 (+2.0% or 47,800 people) than it had in 1968-1969 (+2.9% or 67,400 people), dropping behind the national growth performance but remaining slightly above the average rate of growth for the Region (see Table III-A, page 22).

As in the nation and the Region as a whole, the slackening of growth in employment opportunities in Southern Appalachia combined with the

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16/ The total employment, work force and unemployment data used in this report were obtained from the state bureaus of employment security. These data represent all employment in each county, and total work force and unemployment data as defined by the Manpower Administration of the Department of Labor. National data were obtained from the Bureau of Labor Statistics. The data on the structure of employment in the major industrial groups collected from the County Business Patterns (CBP) publications do not represent total employment, but only employment covered by the Federal Insurance Contributions Act. This includes all covered wage and salary employees of private nonfarm employers and of nonprofit organizations. It does not include government employees, self-employed individuals, farm workers, domestic service workers, railroad employees, or individuals employed on oceanborne vessels. The data from the state offices are indicative of the total labor market situation within a given area. The CBP data reflect important trends in the major industrial sectors of the Region's economy. In 1970, employment in the major industrial groups (CBP) represented approximately 70% of total employment in the Appalachian Region.

17/ The absolute changes indicated for Southern Appalachia in total employment, work force, and unemployment are somewhat distorted due to the necessary inclusion of data for Anderson County in Central Appalachian Tennessee, and Blount and Polk counties in Highlands Appalachian Tennessee. See important notes in the Appendix, page A-6, for detailed explanation. The County Business Patterns employment data for major industrial groups used later in the discussion does not contain this distortion.

TABLE III-A

GROWTH IN WORK FORCE AND EMPLOYMENT IN SOUTHERN APPALACHIA [a/]

	Employment						Work Force					
	Recent Growth Performance			Summary Growth Performance			Recent Growth Performance			Summary Growth Performance		
	Total Employment 1970 (000s)	Percent Growth 1969-1970	Absolute Growth 1969-1970 (000s)	Total Employment 1965 (000s)	Percent Growth 1965-1970	Absolute Growth 1965-1970 (000s)	Work Force 1970 (000s)	Percent Growth 1969-1970	Absolute Growth 1969-1970 (000s)	Work Force 1965 (000s)	Percent Growth 1965-1970	Absolute Growth 1965-1970 (000s)
United States [b/]	78,627.0	+0.9%	+725.0	71,088.0	+10.6%	+7,539.0	82,715.0	+2.5%	+1,982.0	74,455.0	+11.1%	+8,260.0
Appalachia	6,620.8	+0.4%	+ 25.7	6,075.1	+ 9.0%	+ 545.8	6,974.1	+1.7%	+ 113.8	6,397.7	+ 9.0%	+ 576.5
Southern Appalachia	2,359.7	+1.0%	+ 24.2	2,099.5	+12.4%	+ 260.3	2,466.3	+2.0%	+ 47.8	2,194.5	+12.4%	+ 271.8
S. A. Alabama	767.5	+1.5%	+ 11.7	696.7	+10.2%	+ 70.8	801.3	+2.0%	+ 15.7	729.4	+ 9.9%	+ 71.9
S. A. Georgia	240.6	+2.8%	+ 6.5	199.7	+20.4%	+ 40.8	252.3	+4.1%	+ 9.9	209.8	+20.2%	+ 42.4
S. A. Kentucky	46.3	+0.2%	+ 0.1	42.5	+ 8.8%	+ 3.8	50.2	+2.2%	+ 1.1	45.9	+ 9.4%	+ 4.3
S. A. Mississippi	157.4	+1.0%	+ 1.6	139.8	+12.6%	+ 17.6	165.6	+2.7%	+ 4.3	148.3	+11.6%	+ 17.2
S. A. North Carolina	288.7	+1.6%	+ 4.7	257.3	+12.2%	+ 31.4	300.6	+2.7%	+ 7.9	268.4	+12.0%	+ 32.2
S. A. South Carolina	277.5	+1.0%	+ 2.7	241.4	+15.0%	+ 36.1	288.5	+1.9%	+ 5.4	251.2	+14.9%	+ 37.3
S. A. Tennessee	507.4	-0.7%	- 3.3	453.7	+11.8%	+ 53.7	529.8	+0.5%	+ 2.6	470.0	+12.7%	+ 59.8
S. A. Virginia	74.5	+0.5%	+ 0.4	68.4	+ 8.8%	+ 6.0	78.0	+1.4%	+ 1.1	71.5	+ 9.2%	+ 6.6

[a/] State and regional data were obtained from the State Bureaus of Employment Security; national data were obtained from the Bureau of Labor Statistics. Figures for 1970 are preliminary. Please see Appendix, page A-6, for further important explanatory notes.

[b/] All state and regional data are rounded to the nearest hundred, national data to the nearest thousand and percentages to the nearest tenth of a percent. Calculations were performed using unrounded figures.

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continued relatively high increase in the work force to raise the unemployment rate from 3.4% in 1969 (82,900 unemployed) to 4.3% in 1970 (106,500 unemployed). Thus, reversing a two-year downward trend, the unemployment rate achieved its highest level since 1965.

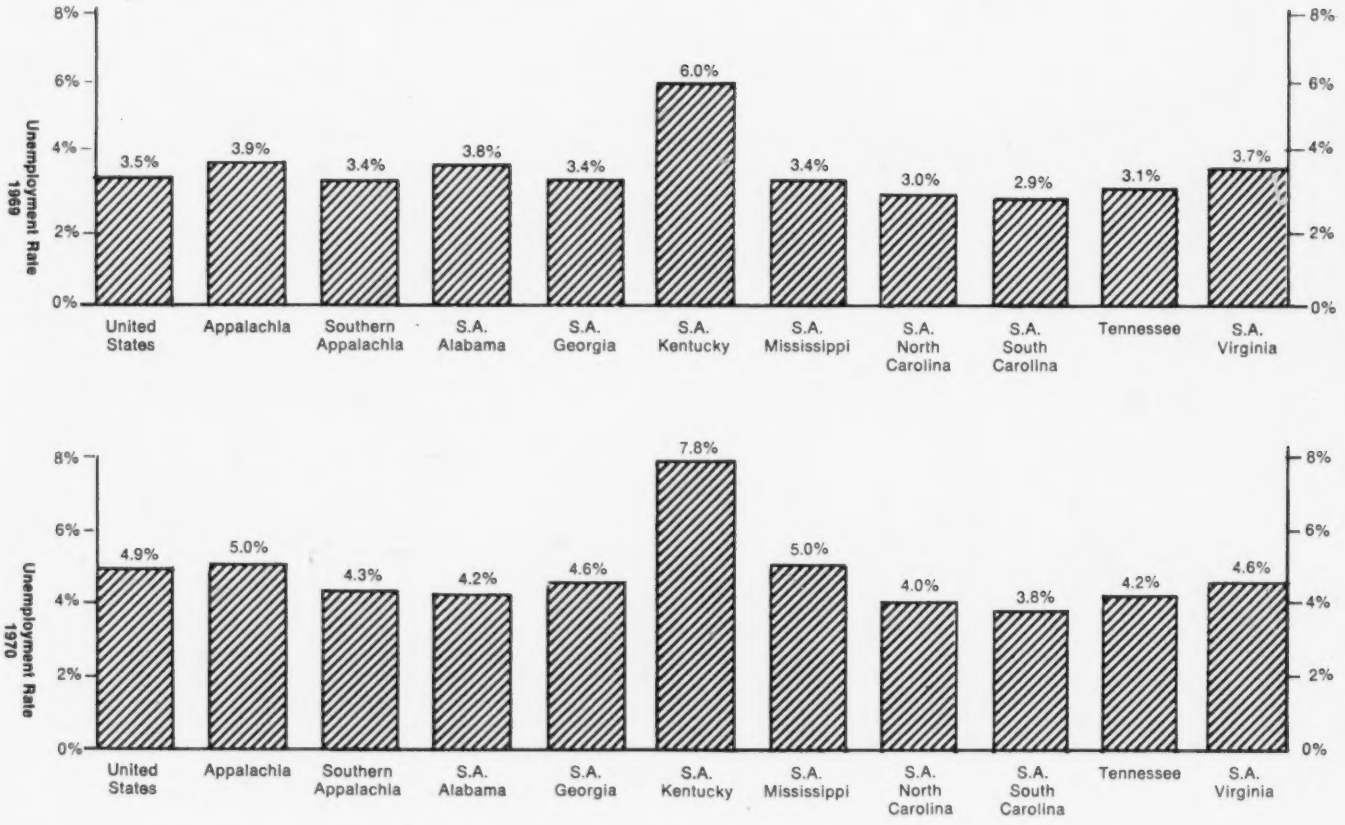
However, Southern Appalachia still fared relatively well in 1970: the unemployment rate remained below the average unemployment rates for the nation and the other three Appalachian subregions. Further, the estimated unemployment rate including the hidden unemployment factor (see page 18 for explanation) was 6% in 1970. This is less than two percentage points higher than the official figure of 4.3%, only half the estimate for this rate in the Region, and significantly less than the estimate for any other subregion. The relatively low "hidden unemployment" which existed in Southern Appalachia in 1970 suggests that the combined impact of those factors which encourage hidden unemployment was not as strong as in the other subregions. For example, the relatively tight labor market situation evidenced by the low reported unemployment rate 18/ indicates that individuals were not as likely to be discouraged from entering the work force and looking for work by a general lack of job opportunities. It may also be the case that in many areas of Southern Appalachia, where industry relies on unskilled as well as skilled labor, that a lack of education does not by itself severely limit employment opportunities for the individual and thus discourage his participation in the work force. This discussion presents only two of many possible factors influencing participation in the work force and, again, suggests the need for further study in this area.

Growth did not occur evenly throughout this subregion (see Table III-A, page 22). Southern Appalachian (S.A.) Georgia produced the most rapid growth in employment from 1969 to 1970, increasing at a rate of +2.8% (6,500 jobs) or approximately three times the national rate and seven times the Appalachian rate. This state area also experienced the fastest growth in its work force. The greatest absolute increase in total employment occurred in S.A. Alabama, which, with only 32% of the 1969 work force in Southern Appalachia, produced 43% of the total increase in employment by state area (48% of the net increase). The greatest absolute growth in work force also occurred here. Other Southern Appalachian state areas which experienced a more rapid rate of growth in employment than did the nation are S.A. Mississippi, S.A. North Carolina, and S.A. South Carolina. The only state which produced a decline in employment was S.A. Tennessee, where the number of jobs fell by 3,300 (-0.7%). Every state area experienced positive growth in its work force with the slowest rate of increase occurring in S.A. Tennessee.

Following the pattern of the nation and the Region, the unemployment rate rose in every S.A. state area in 1970 (see Graph III-A, page 24).

18/ Relative to other subregions.

GRAPH III—A
Unemployment in Southern Appalachia, 1969-1970



Data Source: State and Regional data from State Bureaus of Employment Security; National data from Bureau of Labor Statistics (June 1972)

As in 1969, S.A. South Carolina and S.A. North Carolina had the lowest unemployment rates in Southern Appalachia, indicating also the tightest labor market situation. All but two state areas (S.A. Mississippi, S.A. Kentucky) produced unemployment rates below the national average for 1970.

An examination of employment changes in the major industrial groups clarifies the relatively satisfactory performance of Southern Appalachia in the face of a national economic slowdown.

Manufacturing

Manufacturing is very important as a source of employment in this subregion, accounting for over 49% of all employment in the major industrial groups compared with 45% in Appalachia and 35% in the nation (see Table III-B, page 28). Following the national trend, manufacturing employment declined slightly in Southern Appalachia between 1969 and 1970, losing approximately 5,000 jobs at an annual rate of -0.6%. This rate of decline, however, was substantially below the national rate of -2.1%, and thus presents a picture of relative stability. Again, it is necessary to look to the structure of manufacturing in this subregion and the selective nature of the national economic downturn for an explanation of this relatively satisfactory performance.

Of the more than 789,000 manufacturing jobs in Southern Appalachia in 1970, 40% were in the production of textiles and apparel. Employment in these two industries remained fairly stable between 1969 and 1970, in spite of the national decline caused by increased foreign competition, reduced purchases of the Armed Forces, and weakening private demand. The implication of this situation is that the textile and apparel industries in this subregion are relatively efficient when compared with their counterparts in other areas and, therefore, are less affected by a decline in demand or an increase in competition. Other major manufacturing employers in Southern Appalachia include: the primary metals, and food and kindred products industries, each of which employs approximately 6% of all manufacturing employees in this subregion; chemical and allied products, and fabricated metal products, each employing 5% of all manufacturing employees; and furniture and fixtures, nonelectrical machinery, and electrical equipment and supplies, each of which accounts for approximately 4% of all manufacturing employees.

Major manufacturing employment decreases 19/ in this subregion over the period 1969-1970 occurred in the following industries: tobacco; defense and aerospace; lumber and wood products; and chemical and allied products. The declines in defense and aerospace are obviously related to the federal budget cutbacks in these two areas, while the employment

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19/ A decrease in employment of more than 1,000 employees.

decline in the lumber and wood products industry resulted from the general decrease in construction, and thus in demand for construction materials, which occurred in 1970. The employment loss in the chemical and allied products industry occurred primarily in industrial chemicals and therefore likely reflects the more general downturn in industrial output and production. Finally, the loss of employment in the tobacco industry occurred entirely in S.A. North Carolina (specifically, Forsyth County), the only state area in this subregion with a tobacco industry of any appreciable size. Since employment in this industry remained relatively stable at the national level, the shift in S.A. North Carolina must reflect production conditions peculiar to that area.

Industries producing increases in manufacturing employment which helped to offset the above-mentioned losses 20/ were food and kindred products, primary metals, nonelectrical machinery, and electrical equipment and supplies. The growth of employment in food and kindred products reflects the continued growth of personal consumption expenditures which occurred during 1970. Given the national decline in primary metals industry production and employment resulting from declines in business investment and construction, it is somewhat surprising that the Southern Appalachian states produced positive growth in this area of employment. A partial explanation is that in comparison with their northern counterparts, much of this type of industry is relatively new in the south and therefore is likely to be using more modern, efficient technology. Such industries would be more capable of withstanding the competitive strain of an economic downturn than would the older industries of other areas. Local market demand would also have an obvious and important impact on growth in this industry.

Employment increases in the nonelectrical machinery industry were concentrated primarily in the production of computing equipment, refrigeration machinery, metalworking equipment, steam engines and turbines, and service industry machinery. Growth in the production of steam engines and turbines is very likely related to the increasingly heavy demands placed on the power industry, requiring additional capacity, coupled with service breakdowns in some areas. Continued growth in demand for consumer goods and services over 1970 would account for employment growth in the production of service industry equipment and refrigeration machinery.

Finally, the electric utilities and communications industries both increased outlays substantially in 1970 to meet rising demands and to improve facilities in areas where service breakdowns had occurred.

20/ Southern Appalachia experienced a net change in manufacturing employment of minus 5,000 jobs.

Employment increases in electrical equipment and supplies 21/ were a direct result of this phenomenon. Other increases occurred in the production of household appliances and are explained by the continued growth of consumer demand.

Changes within individual state areas (see Table III-B, page 28) varied according to their particular structure of employment. The Southern Appalachian portions of Alabama, Georgia, Kentucky and South Carolina all experienced moderate or relatively stable growth between 1969 and 1970. In S.A. Alabama, employment increases in the production of electrical equipment and supplies, primary metals, food and kindred products, textiles and apparel, and furniture and fixtures were largely offset by decreases in aerospace and defense, 22/ transportation equipment, lumber and wood products, and instruments and related products. In S.A. Georgia, where manufacturing employment forms over 60% of major industrial group employment, most industries remained relatively stable. Approximately two-thirds of the manufacturing employment here is in the production of apparel and textiles, which did not change significantly. Moderate employment decreases in furniture and fixtures, stone, clay and glassware, and leather and leather products were, again, offset by growth in food and kindred products, rubber and plastic products, printing and publishing, and nonelectrical machinery. Manufacturing is relatively small in absolute size (6,100 employees in 1970) and constitutes a small share of employment in S.A. Kentucky. This sector of employment is concentrated primarily in the apparel industry with a few scattered firms producing lumber and wood products, rubber and plastics, electronic equipment and supplies, instruments and related products, and other miscellaneous manufactured goods. Finally, in S.A. South Carolina, as in the other states producing positive growth, manufacturing employment is heavily concentrated in the textiles and apparel industry (65%), which declined slightly here from 1969 to 1970. Changes in other areas of manufacturing employment were moderate.

States which experienced declines in this type of employment were S.A. Mississippi, S.A. North Carolina, S.A. Tennessee and S.A. Virginia. The largest decline occurred in S.A. North Carolina (-4.5% or -4,800 jobs) and was concentrated in the tobacco 23/ and textile industries. Partially offsetting increases occurred in the apparel, nonelectrical machinery, and

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21/ Increases occurred primarily in the following areas: transformers, generators, radio and TV equipment, communications equipment, electronic components and accessories.

22/ The entire employment decrease in this sector of production in Southern Appalachia occurred in S.A. Alabama.

23/ Approximately 90% of Southern Appalachia's tobacco industry is located in North Carolina.

TABLE III-B

SOUTHERN APPALACHIA MANUFACTURING EMPLOYMENT [a]

	Recent Growth Performance				Summary Growth Performance			
	Manufacturing Employment 1970 [b]	Percent of Major Industrial Group Employment-1970	Percent Growth 1969-1970	Absolute Growth 1969-1970	Manufacturing Employment 1965	Percent of Major Industrial Group Employment-1965	Percent Growth 1965-1970	Absolute Growth 1965-1970
United States	19,761,500	34.8%	-2.1%	-432,400	17,595,100	36.9%	+12.3%	+2,166,500
Appalachia	2,067,500	45.1%	-1.4%	- 30,100	1,860,600	47.3%	+11.1%	+ 206,900
Southern Appalachia	789,400	49.3%	-0.6%	- 5,000	666,800	50.8%	+18.4%	+ 122,600
S. A. Alabama	216,700	42.6%	+0.2%	+ 500	187,500	43.5%	+15.5%	+ 29,100
S. A. Georgia	107,900	61.1%	+0.5%	+ 600	84,600	62.4%	+27.5%	+ 23,300
S. A. Kentucky	6,100	36.0%	+3.1%	+ 200	4,200	33.8%	+46.0%	+ 1,900
S. A. Mississippi	49,300	57.2%	-1.7%	- 800	38,100	57.4%	+29.3%	+ 11,200
S. A. North Carolina	103,500	50.0%	-4.5%	- 4,800	91,600	52.9%	+13.1%	+ 12,000
S. A. South Carolina	118,500	54.9%	+0.6%	+ 800	101,900	57.8%	+16.3%	+ 16,600
S. A. Tennessee	160,500	47.2%	-0.7%	- 1,100	137,200	49.1%	+17.0%	+ 23,300
S. A. Virginia	26,900	54.7%	-0.6%	- 200	21,600	55.2%	+24.2%	+ 5,200

[a] Data Source: County Business Patterns, 1965, 1969 and 1970, U. S. Department of Commerce, Bureau of the Census, Washington, D. C. These data have been adjusted for disclosure omissions and include only employment covered by the Federal Insurance Contributions Act. See Appendix, page A-8, for important explanatory notes concerning the limitations of these data.

[b] Numbers may not add due to rounding. All calculations performed on unrounded data.

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administration and auxiliary industries. S.A. Tennessee has a relatively diverse manufacturing sector, with large concentrations in the production of chemicals and allied products, textiles and apparel, fabricated metal products and furniture and fixtures. Here, employment increases in textiles, nonelectrical machinery, and food and kindred products were more than offset by declines in electrical equipment and supplies, printing and publishing, chemical and allied products, and apparel. S.A. Mississippi has a reasonably diverse manufacturing sector and experienced a moderate decrease in this type of employment, with small increases in several industries partially offsetting small declines in others. Finally, manufacturing employment in S.A. Virginia remained relatively stable from 1969 to 1970. As in many of the other Southern Appalachian states, employment is heavily concentrated in the textiles and apparel industry.

Finance, Insurance, Real Estate and Services

In contrast to the nation and Appalachia, Southern Appalachian employment in finance, insurance, real estate and services (FIRES) accelerated in 1969-1970, increasing at a rate of +5.5% (14,500 jobs) compared to +3.9% the previous year (see Table III-C, page 30). The continued relatively rapid growth performance of this sector 24/ can be attributed to the stability of manufacturing in Southern Appalachia, which would have a stabilizing effect on the demand for business services, and to the continued growth in the nation and in Southern Appalachia of consumer demand for services. Growth in this sector may also reflect in part its relative underdevelopment in many areas of Southern Appalachia. In 1970, FIRES employment composed only 17.3% of major industrial group employment here compared to 24.7% in the nation. Thus, some portion of its growth may have been the result of an accumulation of past demand pressures as well as increased pressure over the period.

The Southern Appalachian state areas of North Carolina, South Carolina, Georgia and Virginia all have had relatively small sectors of employment 25/ in FIRES and experienced a rate of employment growth in this sector significantly greater than the national rate (see Table III-C, page 30). As was the case over the period 1965-1969, the largest absolute increases in this type of employment from 1969 to 1970 occurred in S.A. Alabama and S.A. Tennessee. S.A. Mississippi, in contrast to an earlier pattern of very rapid growth (rate of growth 1965-1969: +50.8%), produced the slowest growth rate of any of the state areas. This deceleration is likely a reaction to the immediately preceding growth pattern as well as the relatively small size and decline in employment of its manufacturing sector. Finally, in a continuation of its previous

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24/ Employment in FIRES grew more rapidly here from 1969 to 1970 than in the nation or any other subregion.

25/ As a share of total major industrial group employment.

TABLE III-C

SOUTHERN APPALACHIA FINANCE, INSURANCE, REAL ESTATE AND SERVICE INDUSTRY EMPLOYMENT [a]

	Recent Growth Performance				Summary Growth Performance			
	FIRES Employment 1970 [b]	Percent of Major Industrial Group Employment-1970	Percent Growth 1969-1970	Absolute Growth 1969-1970	FIRES Employment 1965	Percent of Major Industrial Group Employment-1965	Percent Growth 1965-1970	Absolute Growth 1965-1970
United States	14,136,400	24.7%	+4.8%	+651,900	10,723,400	22.5%	+31.8%	+3,413,000
Appalachia	854,600	18.7%	+4.1%	+ 33,500	651,900	16.6%	+31.1%	+ 202,700
Southern Appalachia	277,400	17.3%	+5.5%	+ 14,500	202,700	15.4%	+36.9%	+ 74,700
S. A. Alabama	101,200	19.9%	+4.2%	+ 4,100	76,100	17.7%	+33.1%	+ 25,100
S. A. Georgia	18,600	10.6%	+7.9%	+ 1,400	13,100	9.6%	+42.8%	+ 5,600
S. A. Kentucky	3,400	20.0%	+3.6%	+ 100	2,800	22.3%	+22.9%	+ 600
S. A. Mississippi	11,900	13.8%	+2.4%	+ 300	7,700	11.6%	+54.4%	+ 4,200
S. A. North Carolina	36,200	17.5%	+8.5%	+ 2,800	26,000	15.0%	+39.2%	+ 10,200
S. A. South Carolina	31,600	14.7%	+8.3%	+ 2,400	22,900	13.0%	+38.1%	+ 8,700
S. A. Tennessee	66,800	19.7%	+4.7%	+ 3,000	48,900	17.5%	+36.7%	+ 18,000
S. A. Virginia	7,500	15.3%	+6.1%	+ 400	5,200	13.3%	+43.1%	+ 2,300

[a] Data Source: County Business Patterns, 1965, 1969 and 1970, U. S. Department of Commerce, Bureau of the Census, Washington, D. C. These data have been adjusted for disclosure omissions and include only employment covered by the Federal Insurance Contributions Act. See Appendix, page A-8, for important explanatory notes concerning these data.

[b] FIRES stands for finance, insurance, real estate and services. Numbers may not add due to rounding. All calculations performed on unrounded data.

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pattern, S.A. Kentucky FIRES employment also grew at a relatively slow pace in 1969-1970. Both the manufacturing and service sectors are still somewhat small (in absolute size) and underdeveloped in this area. As manufacturing employment increases and as population continues to relocate into serviceable, more concentrated areas, employment in FIRES should expand.

Retail and Wholesale Trade

Conditions in the retail and wholesale trade sectors of employment did not change markedly in Southern Appalachia between 1969 and 1970. Both continued their patterns of positive growth (see Tables III-D and III-E, pages 32 and 33), increasing more rapidly than any other subregion. The relatively high growth maintained by the trade sectors is very likely related to the stability of manufacturing employment in Southern Appalachia and the continued growth of consumer expenditures which occurred in general throughout the nation during 1970.

On the whole, over the past six years both retail and wholesale trade employment have composed small shares of major industrial group employment relative to the national averages, implying the existence of an underdeveloped trade sector. As indicated in previous reports, this is not surprising since development of the trade sectors tends to lag behind development in other areas of the economy. As economic development and growth occur, population tends to relocate toward the growing areas in larger, more concentrated groupings. Eventually, the market size for retail businesses other than small, family-run businesses or single-proprietorships with no employees (not included in the sectoral employment series) reaches an efficient, profitable size and the retail trade sector expands. Movement toward larger population centers combined with improvements in the transportation system (expanding the geographic area relevant to a given market) has been occurring and is expected to continue in Southern Appalachia. Thus, given favorable general economic conditions, it can be expected that growth in this sector will accelerate in the future, attaining a larger share of total major industrial group employment and more closely approximating the structural pattern indicated by the national averages.

A similar argument can be made with respect to the wholesale trade sector which also tends to lag behind development in other sectors. The wholesale trade sector is made up of businesses selling merchandise to retailers, or to industrial, commercial, institutional, or professional users. The link between wholesale and retail trade growth is apparent. This reasoning is extended to wholesalers dealing with industrial, commercial, institutional, or professional users. As various industries, etc., using a given class of wholesale good become more concentrated and as access to other market areas is improved, a given market area will eventually reach a size adequate to profitably support a wholesale trade enterprise and will thus stimulate growth in that sector.

TABLE III-D

SOUTHERN APPALACHIA RETAIL TRADE EMPLOYMENT [a]

	Recent Growth Performance				Summary Growth Performance			
	Retail Trade Employment 1970 [b]	Percent of Major Industrial Group Employment-1970	Percent Growth 1969-1970	Absolute Growth 1969-1970	Retail Trade Employment 1965	Percent of Major Industrial Group Employment-1965	Percent Growth 1965-1970	Absolute Growth 1965-1970
United States	11,071,300	19.3%	+3.4%	+364,800	8,963,700	18.8%	+23.5%	+2,107,500
Appalachia	782,700	17.1%	+2.7%	+ 20,400	655,500	16.7%	+19.4%	+ 127,100
Southern Appalachia	252,800	15.8%	+3.2%	+ 7,800	208,900	15.9%	+21.0%	+ 43,900
S. A. Alabama	87,200	17.2%	+3.2%	+ 2,700	74,800	17.4%	+16.6%	+ 12,400
S. A. Georgia	24,200	13.7%	+7.5%	+ 1,700	18,000	13.3%	+34.4%	+ 6,200
S. A. Kentucky	4,800	28.2%	+0.3%	+ 0	3,400	27.2%	+41.9%	+ 1,400
S. A. Mississippi	13,100	15.2%	-0.1%	- 0	10,400	15.7%	+25.1%	+ 2,600
S. A. North Carolina	31,300	15.1%	+5.5%	+ 1,600	25,500	14.7%	+22.9%	+ 5,800
S. A. South Carolina	29,900	13.9%	+5.4%	+ 1,500	24,000	13.6%	+24.9%	+ 6,000
S. A. Tennessee	54,500	16.0%	+0.3%	+ 200	46,400	16.6%	+17.6%	+ 8,200
S. A. Virginia	7,800	15.8%	+1.3%	+ 100	6,500	16.5%	+20.0%	+ 1,300

[a] Data Source: County Business Patterns, 1965, 1969 and 1970, U. S. Department of Commerce, Bureau of the Census, Washington, D. C. These data have been adjusted for disclosure omissions and include only employment covered by the Federal Insurance Contributions Act. See Appendix, page A-8, for important explanatory notes concerning the limitations of these data.

[b] Numbers may not add due to rounding. All calculations performed on unrounded data.

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TABLE III-E

SOUTHERN APPALACHIA WHOLESALE TRADE EMPLOYMENT [a]

	Recent Growth Performance				Summary Growth Performance			
	Wholesale Trade Employment 1970 [b]	Percent of Major Industrial Group Employment-1970	Percent Growth 1969-1970	Absolute Growth 1969-1970	Wholesale Trade Employment 1965	Percent of Major Industrial Group Employment-1965	Percent Growth 1965-1970	Absolute Growth 1965-1970
United States	4,036,000	7.0%	+2.9%	+115,400	3,434,900	7.2%	+17.5%	+601,100
Appalachia	234,500	5.1%	+3.5%	+ 7,900	198,200	5.0%	+18.3%	+ 36,400
Southern Appalachia	85,100	5.3%	+4.7%	+ 3,800	69,700	5.3%	+22.1%	+ 15,400
S. A. Alabama	31,900	6.3%	+6.5%	+ 2,000	27,300	6.3%	+16.8%	+ 4,600
S. A. Georgia	6,400	3.6%	+3.7%	+ 200	5,100	3.8%	+25.2%	+ 1,300
S. A. Kentucky	1,000	6.1%	+6.3%	+ 100	700	5.5%	+52.0%	+ 400
S. A. Mississippi	3,800	4.4%	+0.8%	+ 0	3,000	4.5%	+26.4%	+ 800
S. A. North Carolina	8,800	4.2%	-0.3%	- 0	8,100	4.7%	+ 8.6%	+ 700
S. A. South Carolina	10,400	4.8%	+6.6%	+ 600	8,200	4.7%	+26.0%	+ 2,100
S. A. Tennessee	21,000	6.2%	+4.2%	+ 800	15,700	5.6%	+33.5%	+ 5,300
S. A. Virginia	1,800	3.6%	+3.9%	+ 100	1,500	3.9%	+15.9%	+ 200

[a] Data Source: County Business Patterns, 1965, 1969 and 1970, U. S. Department of Commerce, Bureau of the Census, Washington, D. C. These data have been adjusted for disclosure omissions and include only employment covered by the Federal Insurance Contributions Act. See Appendix, page A-8, for important explanatory notes concerning the limitations of these data.

[b] Numbers may not add due to rounding. All calculations performed on unrounded data.

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Transportation and Other Public Utilities

Employment in transportation and other public utilities continued to grow more rapidly in Southern Appalachia than in the Region or the nation as a whole (see Table III-F, page 36). As in the recent past, this growth can be attributed to the demands of new and increasingly concentrated population centers (job commuting, services, trade, etc.), as well as the demands of the southern manufacturing industries. The moderate slowing of employment growth in transportation and other public utilities in 1969-1970 compared to the previous year is partially a result of the lack of growth in manufacturing.

The continued growth in this sector should have a positive and reinforcing influence on the overall growth of the area by improving Southern Appalachia's ability to provide needed infrastructure and services to new and expanding industries (e.g., commuter transportation increasing labor mobility, freight transportation, power and water supply).

Contract Construction

Employment in the contract construction industry fell sharply in Southern Appalachia, shifting from a growth rate of +4.5% in 1968-1969 to a rate of decline of -3.5% in 1969-1970 (see Table III-G, page 37). This shift from positive to negative growth was most likely a reflection of conditions similar to those occurring generally throughout the United States. In the nation as a whole, increasingly tight credit conditions and rising interest rates in 1969 exerted their influence early in 1970, resulting in a sharp decline in housing starts due to the higher cost and lower availability of mortgage credit. These tight money conditions combined with the more general slowdown in manufacturing and investment to cause a more moderate decline in nonresidential construction. In Southern Appalachia, the drop-off in housing starts and nonresidential construction were translated directly into employment declines.

Although the downward trend was dominant, the experience of the individual state areas in 1969-1970 varied in response to local credit conditions, trends in manufacturing and investment, local building costs and conditions in the construction labor market. Annual rates of change ranged from +5.2% (S.A. Virginia) to -29.0% (S.A. Kentucky), with all but two state areas (S.A. Virginia and S.A. Alabama) producing employment declines in contract construction.

Mining

Mining as a sector of employment is of very small importance in Southern Appalachia, forming less than 1% of major industrial group employment in all but three state areas (see Table III-H, page 38). Growth in this sector has been fairly erratic, with annual rates of growth in

1969-1970 varying from +44.6% in S.A. Kentucky to -13.2% in S.A. North Carolina. Trends at the state area level are very difficult to establish and analyze due to the small size of the sectors and statistical errors caused by changes in the disclosure problem from year-to-year.

TABLE III-F

SOUTHERN APPALACHIA EMPLOYMENT IN TRANSPORTATION AND OTHER PUBLIC UTILITIES [a]

	Recent Growth Performance				Summary Growth Performance			
	Trans., etc. Employment 1970 [b]	Percent of Major Industrial Group Employment-1970	Percent Growth 1969-1970	Absolute Growth 1969-1970	Trans., etc. Employment 1965	Percent of Major Industrial Group Employment-1965	Percent Growth 1965-1970	Absolute Growth 1965-1970
United States	3,837,900	6.7%	+3.6%	+134,500	3,218,700	6.7%	+19.2%	+619,200
Appalachia	247,000	5.4%	+2.0%	+ 4,800	214,000	5.4%	+15.4%	+ 32,900
Southern Appalachia	78,300	4.9%	+4.1%	+ 3,100	62,100	4.7%	+25.9%	+ 16,100
S. A. Alabama	28,100	5.5%	+1.9%	+ 500	23,100	5.4%	+21.3%	+ 4,900
S. A. Georgia	6,500	3.7%	+8.7%	+ 500	4,800	3.5%	+35.2%	+ 1,700
S. A. Kentucky	500	2.9%	+5.6%	+ 0	400	3.1%	+26.5%	+ 100
S. A. Mississippi	3,100	3.6%	+5.1%	+ 200	2,700	4.1%	+15.3%	+ 400
S. A. North Carolina	13,800	6.6%	+1.1%	+ 200	10,700	6.2%	+29.2%	+ 3,100
S. A. South Carolina	10,100	4.7%	+9.5%	+ 900	6,600	3.7%	+53.1%	+ 3,500
S. A. Tennessee	14,300	4.2%	+5.0%	+ 700	12,100	4.3%	+18.4%	+ 2,200
S. A. Virginia	2,000	4.1%	+7.0%	+ 100	1,800	4.7%	+ 9.0%	+ 200

[a] Data Source: County Business Patterns, 1965, 1969 and 1970, U. S. Department of Commerce, Bureau of the Census, Washington, D. C. These data have been adjusted for disclosure omissions and include only employment covered by the Federal Insurance Contributions Act. See Appendix, page A-8, for important explanatory notes concerning the limitations of these data.

[b] Numbers may not add due to rounding. All calculations performed on unrounded data.

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TABLE III-G

SOUTHERN APPALACHIA CONTRACT CONSTRUCTION EMPLOYMENT [a]

	Recent Growth Performance				Summary Growth Performance			
	Construction Employment 1970 [b]	Percent of Major Industrial Group Employment-1970	Percent Growth 1969-1970	Absolute Growth 1969-1970	Construction Employment 1965	Percent of Major Industrial Group Employment-1965	Percent Growth 1965-1970	Absolute Growth 1965-1970
United States	3,197,400	5.6%	+ 0.3%	+8,100	2,824,000	5.9%	+13.2%	+373,400
Appalachia	232,000	5.1%	- 3.9%	-9,500	191,300	4.9%	+21.3%	+ 40,700
Southern Appalachia	91,800	5.7%	- 3.5%	-3,300	79,700	6.1%	+15.2%	+ 12,100
S. A. Alabama	31,400	6.2%	+ 1.9%	+ 600	30,500	7.1%	+ 2.7%	+ 800
S. A. Georgia	9,300	5.3%	- 4.6%	- 500	6,900	5.1%	+35.1%	+ 2,400
S. A. Kentucky	700	4.1%	-29.0%	- 300	500	4.1%	+39.1%	+ 200
S. A. Mississippi	3,800	4.4%	- 6.5%	- 300	3,500	5.3%	+ 7.7%	+ 300
S. A. North Carolina	11,600	5.6%	- 8.3%	-1,000	10,000	5.8%	+15.6%	+ 1,600
S. A. South Carolina	13,800	6.4%	- 5.1%	- 700	11,700	6.6%	+17.8%	+ 2,100
S. A. Tennessee	19,200	5.6%	- 5.8%	-1,200	15,100	5.4%	+27.0%	+ 4,100
S. A. Virginia	2,100	4.3%	+ 5.2%	+ 100	1,400	3.7%	+45.6%	+ 700

[a] Data Source: County Business Patterns, 1965, 1969 and 1970, U. S. Department of Commerce, Bureau of the Census, Washington, D. C. These data have been adjusted for disclosure omissions and include only employment covered by the Federal Insurance Contributions Act. See Appendix, page A-8, for important explanatory notes concerning the limitations of these data.

[b] Numbers may not add due to rounding. All calculations performed on unrounded data.

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TABLE III-H

SOUTHERN APPALACHIA MINING EMPLOYMENT [a]

	Recent Growth Performance				Summary Growth Performance			
	Mining Employment 1970 [b]	Percent of Major Industrial Group Employment-1970	Percent Growth 1969-1970	Absolute Growth 1969-1970	Mining Employment 1965	Percent of Major Industrial Group Employment-1965	Percent Growth 1965-1970	Absolute Growth 1965-1970
United States	600,700	1.0%	+ 0.4%	+2,400	599,300	1.3%	+ 0.2%	+1,400
Appalachia	132,300	2.9%	+ 3.2%	+4,100	139,100	3.5%	- 4.9%	-6,800
Southern Appalachia	11,700	0.7%	+ 0.4%	+ 0	12,700	1.0%	- 8.0%	-1,000
S. A. Alabama	6,900	1.4%	+ 1.5%	+ 100	7,600	1.8%	- 8.0	- 600
S. A. Georgia	900	0.5%	+ 0.2%	+ 0	700	0.5%	+23.4%	+ 200
S. A. Kentucky	200	1.0%	+44.6%	+ 100	200	1.4%	+ 3.6%	+ 0
S. A. Mississippi	200	0.2%	- 7.7%	- 0	100	0.2%	+43.2%	+ 100
S. A. North Carolina	400	0.2%	-13.2%	- 100	300	0.2%	+28.7%	+ 100
S. A. South Carolina	200	0.1%	+31.7%	+ 0	400	0.2%	-56.7%	- 200
S. A. Tennessee	2,100	0.6%	- 5.4%	- 100	2,600	0.9%	-17.6%	- 500
S. A. Virginia	800	1.6%	+ 6.4%	+ 0	900	2.2%	- 9.2%	- 100

[a] Data Source: County Business Patterns, 1965, 1969 and 1970, U. S. Department of Commerce, Bureau of the Census, Washington, D. C. These data have been adjusted for disclosure omissions and include only employment covered by the Federal Insurance Contributions Act. See Appendix, page A-8, for important explanatory notes concerning the limitations of these data.

[b] Numbers may not add due to rounding. All calculations performed on unrounded data.

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Central Appalachia

Of the four Appalachian subregions, Central Appalachia seems to have been the least affected by the national economic slowdown of 1970. Although the rate of growth in employment was lower here than in the previous year, employment grew more rapidly than in the nation or any other subregion during 1969-1970, increasing by 9,900 jobs at an annual rate of +2.3%. At the same time, growth in the work force accelerated, increasing from an annual rate of +2.7% in 1968-1969 to +3.5% in 1969-1970 (see Table III-I, page 40). 26/ Again, this growth was more rapid than that of either the nation or the other Appalachian subregions.

As a consequence of the decline in employment growth and the acceleration of growth in the work force, the unemployment rate rose in Central Appalachia from 7.5% (27,400 unemployed) in 1969 to 7.9% (30,300) in 1970. Although unemployment remains high relative to the nation and the other subregions, the increase in the unemployment rate was less than one-third of the increase in the national rate (see Graph III-B, page 42).

However, Central Appalachia may not be faring as well as the above figures indicate. Preliminary estimates for unemployment in 1970 including the hidden unemployment factor (see page 18 for detailed explanation) show that the unemployment rate in Central Appalachia may be as high as one-third of the potential work force. 27/ Again, it must be emphasized that this figure is based on a very rough estimating procedure. However, even this rough estimate serves to emphasize the fact that the unemployment problem in Central Appalachia is likely to be significantly understated by the official data.

26/ The absolute changes indicated for Central Appalachia in total employment, work force and unemployment are somewhat distorted due to the necessary omission of data for the Central Appalachian counties of Anderson, Tennessee, and Monroe, West Virginia, and the inclusion of data for Boone County in Northern Appalachian West Virginia. For detailed information, see important note on page A-6 of the Appendix. The County Business Patterns employment data for major industrial groups used later in this discussion does not contain this distortion.

27/ The official unemployment rate of 7.9% represents the difference between the number of individuals reported to be in the work force and the employed. Hidden unemployment refers to unemployment which exists, but goes unreported because the individuals involved either never enter or have dropped our of the work force even though they are capable of performing work.

TABLE III-I

GROWTH IN WORK FORCE AND EMPLOYMENT IN CENTRAL APPALACHIA [a/]

	Employment						Work Force					
	Recent Growth Performance			Summary Growth Performance			Recent Growth Performance			Summary Growth Performance		
	Total Employment 1970 (000s)	Percent Growth 1969-1970	Absolute Growth 1969-1970 (000s)	Total Employment 1965 (000s)	Percent Growth 1965-1970	Absolute Growth 1965-1970 (000s)	Work Force 1970 (000s)	Percent Growth 1969-1970	Absolute Growth 1969-1970 (000s)	Work Force 1965 (000s)	Percent Growth 1965-1970	Absolute Growth 1965-1970 (000s)
United States [b/]	78,627.0	+0.9%	+725.0	71,088.0	+10.6%	+7,539.0	82,715.0	+2.5%	+1,982.0	74,455.0	+11.1%	+8,260.0
Appalachia	6,620.8	+0.4%	+ 25.7	6,075.1	+ 9.0%	+ 545.8	6,974.1	+1.7%	+ 113.8	6,397.7	+ 9.0%	+ 576.5
Central Appalachia	350.4	+2.3%	+ 9.9	318.3	+10.1%	+ 32.0	380.6	+3.5%	+ 12.7	356.0	+ 6.9%	+ 24.6
C. A. Kentucky	115.9	+2.5%	+ 2.8	101.6	+14.1%	+ 14.3	129.1	+3.5%	+ 4.3	118.0	+ 9.4%	+ 11.1
C. A. Tennessee	76.2	+0.2%	+ 0.2	70.6	+ 7.9%	+ 5.6	81.3	+0.6%	+ 0.5	75.1	+ 8.3%	+ 6.2
C. A. Virginia	53.8	+6.6%	+ 3.3	49.2	+ 9.5%	+ 4.6	57.8	+6.7%	+ 3.6	53.3	+ 8.6%	+ 4.6
C. A. West Virginia	104.5	+3.6%	+ 3.6	97.0	+ 7.7%	+ 7.5	112.4	+4.0%	+ 4.3	109.6	+ 2.5%	+ 2.7

[a/] State and regional data were obtained from the State Bureaus of Employment Security; national data were obtained from the Bureau of Labor Statistics. Figures for 1970 are preliminary. Please see Appendix, page A-6, for further important explanatory notes.

[b/] All state and regional data are rounded to the nearest hundred, national data to the nearest thousand and percentages to the nearest tenth of a percent. Calculations were performed using unrounded figures.

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Assuming that the "hidden unemployed" can be drawn into the work force, the above discussion demonstrates that Central Appalachia has a substantial supply of labor potentially available to participate in economic and industrial expansion. Important policy questions then revolve around why labor force participation rates are so low in Central Appalachia, and how the hidden unemployed can be effectively brought into the active work force. There are several responses possible within the Central Appalachian context, each of which implies a different combination of policies. For example, since the late 1950s, high unemployment and a general lack of job opportunities have consistently characterized Central Appalachia. As mentioned previously, such a situation can effectively discourage individuals from entering the work force and looking for work. Policies implied here involve a concentrated economic and social development effort designed to stimulate accelerated economic activity in selected areas having a reasonable potential for growth. Other factors (and policies implied) which are also likely to be important in discouraging individual participation in the work force in Central Appalachia include: a lack of skills appropriate to the needs of the labor market indicating a need for improved education and vocational training opportunities; poor health, implying the need for improved health education, health facilities, more doctors, etc.; and the inability of many rural Central Appalachian residents to reach areas of potential employment due to their relative inaccessibility, 28/ indicating the need for improved roads and the provision of a rural transit system. There are obviously other possible explanations for Central Appalachia's relatively low labor force participation rates and high rate of hidden unemployment. Further research is necessary to determine the exact character of the factors encouraging this situation and to develop specific policies to enable those Central Appalachians who so desire to effectively participate in their economy.

Growth in employment during 1970 was not evenly distributed among the Central Appalachian state areas. Central Appalachian (C.A.) Virginia, with only 15% of the total Central Appalachian work force in 1969, produced a growth in employment from 1969 to 1970 of 3,300 jobs -- approximately 34% of the growth in employment for the entire subregion. This state area also experienced the highest annual rate of growth in employment over 1969-1970, increasing by +6.6%, a rate substantially higher than that of the nation or the Region (see Table III-I, page 40). At the same time, C.A. Virginia's work force increased substantially at an annual rate of +6.7% (3,600 workers). Since the growth of the work force was only slightly greater than that of employment, the unemployment rate

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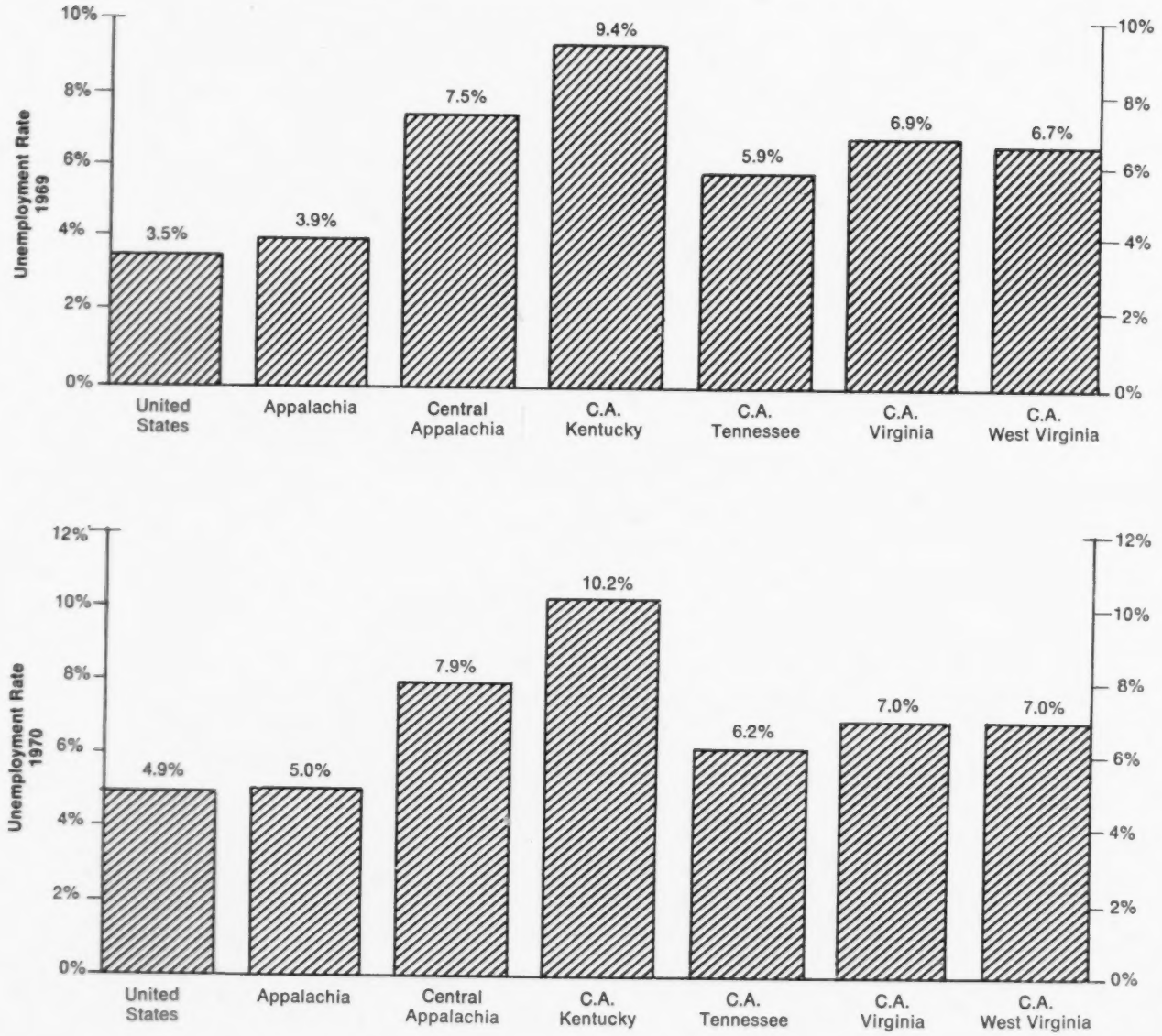
28/ Rugged terrain, lack of adequate roads and the lack of a rural transit system (the percent of Central Appalachian households without a car was much higher than the nation in 1960) results in relative immobility for many Central Appalachians.

GRAPH III—B
Unemployment in Central Appalachia, 1969-1970



Data Source: State and Regional data from State Bureaus of Employment Security; National data from Bureau of Labor Statistics (June 1972)

rose insignificantly in 1970 (see Graph III-B, page 42). C.A. West Virginia also produced a growth in employment which was high relative to its share of the work force: with less than 30% of the Central Appalachian work force in 1969, this state area was responsible for over 36% (3,600) of the total growth in employment from 1969 to 1970. Again, the annual rate of growth here (+3.6% from 1969 to 1970) was substantially higher than in the nation or the Region. The work force in C.A. West Virginia also increased relatively rapidly over this period (+4.0%), with the net result that unemployment rose slightly.

Both of the other Central Appalachian state areas experienced growth in employment as a share of the subregion's growth (1969-1970) which was less than their share of the work force in 1969: C.A. Tennessee contained 22% of the 1969 work force, but accounted for only 2% of Central Appalachian employment growth; C.A. Kentucky contained 34% of the work force and provided approximately 28% of the subregion's employment growth. This is a significant change from the relatively rapid employment trend of the late 1960s in C.A. Kentucky. Unemployment rose in the Central Appalachian portions of both Kentucky and Tennessee.

Much of the explanation for Central Appalachia's performance in 1969-1970 can be derived from an examination of the structure of employment and trends in the major industrial groups during 1969-1970.

Manufacturing

In comparison with its importance in the nation and in the Region, manufacturing is a relatively small sector of employment in Central Appalachia, accounting for only 23.5% of major industrial group employment in 1970 (U. S.: 34.8%; Appalachia: 45.1%). Within this sector, employment is heavily concentrated in the production of textiles and apparel. Smaller concentrations of employment are involved in a variety of types of production, the largest of which are lumber and wood products, electrical equipment and supplies, and food and kindred products. 29/

Central Appalachia is the only one of the four Appalachian subregions which was able to maintain a positive growth in manufacturing employment in the face of a national economic slowdown during 1969-1970 (see Table III-J, page 44). Employment growth occurred in a number of types of manufacturing, with the largest increase in the apparel industry. Again,

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29/ Other types of manufacturing which employ relatively small numbers of workers in Central Appalachia include furniture and fixtures, nonelectrical machinery, printing and publishing, fabricated metal products, leather and leather products, primary metals, chemicals and allied products, transportation equipment, stone, clay and glassware, instruments and related products, and rubber and plastics.

TABLE III-J

CENTRAL APPALACHIA MANUFACTURING EMPLOYMENT [a]

	Recent Growth Performance				Summary Growth Performance			
	Manufacturing Employment 1970 [b]	Percent of Major Industrial Group Employment-1970	Percent Growth 1969-1970	Absolute Growth 1969-1970	Manufacturing Employment 1965	Percent of Major Industrial Group Employment-1965	Percent Growth 1965-1970	Absolute Growth 1965-1970
United States	19,761,000	34.8%	-2.1%	-432,400	17,595,100	36.9%	+12.3%	+2,166,500
Appalachia	2,067,500	45.1%	-1.4%	- 30,100	1,860,600	47.3%	+11.1%	+ 206,900
Central Appalachia	49,900	23.5%	+1.8%	+ 900	41,500	23.0%	+20.3%	+ 8,400
C. A. Kentucky	10,200	15.8%	+3.4%	+ 300	7,200	14.0%	+42.6%	+ 3,000
C. A. Tennessee	26,900	52.8%	+1.6%	+ 400	22,900	53.7%	+17.6%	+ 4,000
C. A. Virginia	5,100	16.3%	+1.5%	+ 100	4,100	14.7%	+24.6%	+ 1,000
C. A. West Virginia	7,700	11.9%	+0.8%	+ 100	7,400	12.5%	+ 4.7%	+ 300

[a] Data Source: County Business Patterns, 1965, 1969 and 1970, U. S. Department of Commerce, Bureau of the Census, Washington, D. C. These data have been adjusted for disclosure omissions and include only employment covered by the Federal Insurance Contributions Act. See Appendix, page A-[illegible], for important explanatory notes concerning the limitations of these data.

[b] Numbers may not add due to rounding. All calculations performed on unrounded data.

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growth occurred in spite of a decline in this type of employment at the national level (caused by increased foreign competition, weakening private demand, and decreased military purchases), indicating that the Central Appalachian apparel industry enjoys a fairly strong competitive position. Smaller employment increases took place in the electrical equipment and supply industry (specifically, in the production of industrial controls), printing and publishing, fabricated metal products, and mining machinery. This growth was partially offset by employment declines in the production of furniture and fixtures, transportation equipment, textiles, lumber and wood products, and food and kindred products.

Increasing at annual growth rates of +1.6% and +3.4%, respectively, C.A. Tennessee and C.A. Kentucky together accounted for approximately 85% (700 jobs) of the growth in manufacturing employment which took place in this subregion from 1969 to 1970. C.A. Tennessee had by far the largest manufacturing sector and, during 1970, accounted for over half of this type of employment in Central Appalachia. This state area is the only one in the subregion where manufacturing employment as a share of major industrial group employment (52.8%) is greater than in the nation (34.8%), indicating its major importance as an employer and influence in the area's economy.

The structure of manufacturing in C.A. Tennessee and C.A. Kentucky is similar, although the former is more diversified. Both have a relatively heavy concentration of employment in areas of manufacturing often characteristic of the early stages of development: textiles and apparel, food and kindred products, and lumber and wood products. This type of manufacturing often serves as the basis for expansion into other, more complex but related areas of manufacturing which act as a source of supply to the existing base of firms or utilize the output of those firms in their production process. To a limited degree, this process has begun. Its continuation depends on the ability of these two state areas to provide an adequate supply of the inputs necessary for the new types of production (labor supply having appropriate skills, land suitable for industrial sites, power source, etc.), as well as whether the market for the new goods is adequate to support a profitable operation. The latter is a function not only of the local market, but of the ability of firms to easily and profitably transport their goods to other markets. This discussion points to the importance of basic infrastructure development as a precondition to economic growth as well as the necessity of concentrating the limited resources available for economic development efforts in those areas having a reasonable potential for growth.

The employment growth which occurred in C.A. Kentucky during 1969-1970 was largely in printing and publishing, and leather and leather products, with partially offsetting declines in food and kindred products. The growth which took place in C.A. Tennessee was more diverse with employment increases in apparel, fabricated metal products, electrical

equipment and supplies, and miscellaneous manufacturing. Decreases in employment occurred in the textile industry, furniture and fixtures, and lumber and wood products.

The manufacturing sectors in the Central Appalachian areas of West Virginia and Virginia are both very small and experienced only slight growth in 1969-1970. The structure of manufacturing is very similar in these two state areas, with employment in the production of textiles and apparel, lumber and wood products, food and kindred products, electrical equipment and supplies, mining machinery, primary metals, printing and publishing, and furniture.

Mining

In 1970, the mining industry maintained its position as the largest employer in Central Appalachia: over 50,000 people (23.8% of all major industrial group employment) worked for the mines. Of the four Central Appalachian states, only C.A. Tennessee had a relatively small mining sector (1,400 employees or less than 3% of major industrial group employment).

The situation of the other three state areas was quite different (see Table III-K, page 47). In 1970, over 23% of all major industrial group employment in C.A. Kentucky was in mining, in C.A. Virginia - 37% and in C.A. West Virginia - 34%. As a result of its relatively large importance, the influence of events in the mining industry are felt throughout the economies of these state areas. The majority of mining carried out in Central Appalachia is coal mining. In the late 1950s and early 1960s, changing technology in the mining industry and shifts in demand to other sources of power caused employment in mining to drop off sharply, exerting a general depressive influence on the Central Appalachian economy. In the late 1960s, the negative impact of technological change on employment tapered off, while coal demand became stronger. In 1970, the generally downward trend in mining employment reversed itself: employment in this sector increased by 3,300 jobs at an annual growth rate of more than +7%. Mining is expected to continue as a major producer and employer in Central Appalachia for the foreseeable future.

Finance, Insurance, Real Estate and Services

The relatively rapid growth of employment in finance, insurance, real estate and services which has occurred in Central Appalachia over the past five years tapered off significantly in 1969-1970. During this period, FIRES employment grew by +3.3% (1,300 jobs) compared to a national growth of +4.8% and a growth rate in the year immediately preceding of +10.7%. The deceleration of this type of growth may be, in part, a reaction to the previous very rapid growth which occurred in this sector. In 1965, FIRES employment was small relative to its importance as a sector of employment in the nation (15.3% compared to 22.5% in the United States),

TABLE III-K

CENTRAL APPALACHIA MINING EMPLOYMENT [a]

	Recent Growth Performance				Summary Growth Performance			
	Mining Employment 1970 [b]	Percent of Major Industrial Group Employment-1970	Percent Growth 1969-1970	Absolute Growth 1969-1970	Mining Employment 1965	Percent of Major Industrial Group Employment-1965	Percent Growth 1965-1970	Absolute Growth 1965-1970
United States	600,700	1.0%	+ 0.4%	+2,400	599,300	1.3%	+ 0.2%	+1,400
Appalachia	132,300	2.9%	+ 3.2%	+4,100	139,100	3.5%	- 4.9%	-6,800
Central Appalachia	50,400	23.8%	+ 7.1%	+3,300	51,100	28.3%	- 1.4%	- 700
C. A. Kentucky	15,200	23.5%	+ 5.2%	+ 700	15,500	30.2%	- 1.5%	- 200
C. A. Tennessee	1,400	2.8%	-12.5%	- 200	1,600	3.8%	-13.9%	- 200
C. A. Virginia	11,600	37.2%	+12.4%	+1,300	12,000	43.2%	- 3.3%	- 400
C. A. West Virginia	22,200	34.0%	+ 7.3%	+1,500	22,000	37.2%	+ 0.6%	+ 100

[a] Data Source: County Business Patterns, 1965, 1969 and 1970, U. S. Department of Commerce, Bureau of the Census, Washington, D. C. These data have been adjusted for disclosure omissions and include only employment covered by the Federal Insurance Contributions Act. See Appendix, page A-8, for important explanatory notes concerning the limitations of these data.

[b] Numbers may not add due to rounding. All calculations performed on unrounded data.

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implying the existence of an underdeveloped sector and an accumulation of past demand pressures for services, etc. Since then, employment growth has been very rapid (see Table III-L, page 49), with the result that FIRES accounted for over 19% of total major industrial employment in 1970, implying that a greater share of those unmet needs were being served.

That growth which did occur in FIRES employment roughly corresponds with the location of increased mining and manufacturing employment, and was most likely stimulated by their growth (directly, from an increased need for business services, and indirectly through the increased effective demand for services, etc., by newly employed consumers with higher incomes). C.A. Kentucky produced both the highest annual rate of growth and the greatest absolute growth in this sector.

Retail and Wholesale Trade

The acceleration of employment growth in retail and wholesale trade in Central Appalachia during 1969-1970 30/ is somewhat encouraging since, in the previous five years, Central Appalachia has generally lagged behind the nation and the rest of the Region in the development of these sectors (see Tables III-M and III-N, pages 50 and 51).

Other than general economic conditions which determine the overall demand for retail and wholesale trade activities, two factors are important in influencing growth in this sector. As mentioned in previous reports and in the discussion on Southern Appalachia, the development of wholesale and retail trade enterprises 31/ depends partly on the increasing concentration of business and population into centers large enough to provide a profitable market for this type of activity. The relocation of population from rural to more urban areas and the increased concentration of business has been occurring slowly in Central Appalachia during the 1960s.

A second important factor influencing growth in trade activities is the accessibility of the existing urban and service cores to their surrounding hinterlands. It is well-known that rugged terrain and the lack of adequate roads and transportation systems have effectively isolated large areas of Central Appalachia. By increasing the internal and external accessibility of the subregion through improved primary and

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30/ Growth in retail trade employment, 1968-1969: +1.6%, 1969-1970: +2.6%; growth in wholesale trade employment, 1968-1969: +0.2%, 1969-1970: +4.4%.

31/ Other than small family businesses or single proprietorships with no employees, which are not included in this data series.

TABLE III-L

CENTRAL APPALACHIA FINANCE, INSURANCE, REAL ESTATE AND SERVICE INDUSTRY EMPLOYMENT [a]

	Recent Growth Performance				Summary Growth Performance			
	FIRES Employment 1970 [b]	Percent of Major Industrial Group Employment-1970	Percent Growth 1969-1970	Absolute Growth 1969-1970	FIRES Employment 1965	Percent of Major Industrial Group Employment-1965	Percent Growth 1965-1970	Absolute Growth 1965-1970
United States	14,136,400	24.7%	+4.8%	+651,900	10,723,400	22.5%	+31.8%	+3,413,000
Appalachia	854,613	18.7%	+4.1%	+ 33,500	651,900	16.6%	+31.1%	+ 202,700
Central Appalachia	41,000	19.3%	+3.3%	+ 1,300	27,700	15.3%	+48.1%	+ 13,300
C. A. Kentucky	15,100	23.3%	+4.4%	+ 600	9,000	17.6%	+67.1%	+ 6,000
C. A. Tennessee	8,800	17.2%	+2.9%	+ 200	5,400	12.7%	+62.3%	+ 3,400
C. A. Virginia	4,600	14.6%	+4.3%	+ 200	3,200	11.6%	+41.7%	+ 1,300
C. A. West Virginia	12,700	19.4%	+2.0%	+ 200	10,100	17.0%	+25.6%	+ 2,600

[a] Data Source: County Business Patterns, 1965, 1969 and 1970, U. S. Department of Commerce, Bureau of the Census, Washington, D. C. These data have been adjusted for disclosure omissions and include only employment covered by the Federal Insurance Contributions Act. See Appendix, page A-8, for important explanatory notes concerning these data.

[b] FIRES stands for finance, insurance, real estate and services. Numbers may not add due to rounding. All calculations performed on unrounded data.

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TABLE III-M

CENTRAL APPALACHIA RETAIL TRADE EMPLOYMENT [a/]

	Recent Growth Performance				Summary Growth Performance			
	Retail Trade Employment 1970 [b/]	Percent of Major Industrial Group Employment-1970	Percent Growth 1969-1970	Absolute Growth 1969-1970	Retail Trade Employment 1965	Percent of Major Industrial Group Employment-1965	Percent Growth 1965-1970	Absolute Growth 1965-1970
United States	11,071,300	19.3%	+3.4%	+364,800	8,963,700	18.8%	+23.5%	+2,107,500
Appalachia	782,700	17.1%	+2.7%	+ 20,400	655,500	16.7%	+19.4%	+ 127,100
Central Appalachia	39,800	18.7%	+2.6%	+ 1,000	34,100	18.8%	+16.7%	+ 5,700
C. A. Kentucky	12,900	20.0%	+2.4%	+ 300	10,600	20.7%	+22.2%	+ 2,400
C. A. Tennessee	8,300	16.4%	+3.4%	+ 300	7,200	16.8%	+16.3%	+ 1,200
C. A. Virginia	5,700	18.2%	-1.0%	- 100	5,000	18.1%	+13.5%	+ 700
C. A. West Virginia	12,800	19.6%	+3.9%	+ 500	11,300	19.1%	+13.1%	+ 1,500

[a/] Data Source: County Business Patterns, 1965, 1969 and 1970, U. S. Department of Commerce, Bureau of the Census, Washington, D. C. These data have been adjusted for disclosure omissions and include only employment covered by the Federal Insurance Contributions Act. See Appendix, page A-8, for important explanatory notes concerning the limitations of these data.

[b/] Numbers may not add due to rounding. All calculations performed on unrounded data.

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TABLE III-N

CENTRAL APPALACHIA WHOLESALE TRADE EMPLOYMENT [a/]

	Recent Growth Performance				Summary Growth Performance			
	Wholesale Trade Employment 1970 [b/]	Percent of Major Industrial Group Employment-1970	Percent Growth 1969-1970	Absolute Growth 1969-1970	Wholesale Trade Employment 1965	Percent of Major Industrial Group Employment-1965	Percent Growth 1965-1970	Absolute Growth 1965-1970
United States	4,036,000	7.0%	+2.9%	+115,400	3,434,900	7.2%	+17.5%	+601,100
Appalachia	234,500	5.1%	+3.5%	+ 7,900	198,200	5.0%	+18.3%	+ 36,400
Central Appalachia	10,100	4.8%	+4.4%	+ 400	8,600	4.8%	+16.7%	+ 1,400
C. A. Kentucky	3,400	5.2%	+4.6%	+ 100	2,800	5.4%	+21.2%	+ 600
C. A. Tennessee	1,300	2.5%	+2.6%	+ 0	1,100	2.6%	+14.2%	+ 200
C. A. Virginia	1,500	4.9%	+7.3%	+ 100	1,300	4.7%	+15.0%	+ 200
C. A. West Virginia	3,900	6.0%	+3.6%	+ 100	3,400	5.8%	+14.5%	+ 500

a/ Data Source: County Business Patterns, 1965, 1969 and 1970, U. S. Department of Commerce, Bureau of the Census, Washington, D. C. These data have been adjusted for disclosure omissions and include only employment covered by the Federal Insurance Contributions Act. See Appendix, page A-8, for important explanatory notes concerning the limitations of these data.

b/ Numbers may not add due to rounding. All calculations performed on unrounded data.

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secondary roads, the development of rural transit systems, etc., the effective market area surrounding existing and potential service centers can be enlarged and should stimulate increased demands for retail and wholesale trade. This is occurring in Central Appalachia with the development of the Appalachian highway system.

The recent growth in the trade sectors is therefore a result of the following combination: Central Appalachia's increasing accessibility; the increasing concentration of population and business; and growth in demand caused by employment growth in other sectors.

Transportation and Other Public Utilities

Employment in transportation and other public utilities also accelerated in Central Appalachia during 1969-1970, increasing from an annual growth rate of only +0.3% in 1968-1969 to a rate of +5.9% in 1969-1970. Again, this is encouraging given the importance of this sector in the process of industrialization and development. However, employment in transportation, etc., is still relatively small as a share of major industrial group employment in Central Appalachia (see Table III-O, page 53), implying that it remains somewhat underdeveloped. This is especially true in C.A. Tennessee where this type of employment has not grown significantly and included only 2.4% of major industrial group employment in 1970 (U. S. average: 6.7%).

C.A. West Virginia produced the most rapid growth as well as the greatest absolute growth during 1969-1970, increasing at a rate of almost +9% (300 jobs).

Construction

As in Southern Appalachia, employment in the contract construction industry declined sharply in 1969-1970, falling at a rate of -7.5% (-700 jobs). Again, this is very likely the result of conditions similar to those which existed generally throughout the nation: tight credit and increasing interest rates, increasing the difficulty and cost of financing construction; business uncertainty causing cancellations or delays in the construction of new business facilities.

The experience of the individual state areas varied widely over the period from a growth of over +21% in C.A. Tennessee to a loss of almost -17% in C.A. Kentucky (see Table III-P, page 54). The annual growth trends in each state area have been for the most part very volatile and seemingly independent of any overall trend. This is not surprising since the market for construction is highly localized and, therefore, trends in this sector reflect a variety of local conditions including building costs, private and public investment decisions, local credit availability, and interest rates.

TABLE III-O

CENTRAL APPALACHIA EMPLOYMENT IN TRANSPORTATION AND OTHER PUBLIC UTILITIES [a]

	Recent Growth Performance				Summary Growth Performance			
	Trans., etc. Employment 1970 [b]	Percent of Major Industrial Group Employment-1970	Percent Growth 1969-1970	Absolute Growth 1969-1970	Trans., etc. Employment 1965	Percent of Major Industrial Group Employment-1965	Percent Growth 1965-1970	Absolute Growth 1965-1970
United States	3,837,900	6.7%	+3.6%	+134,500	3,218,700	6.7%	+19.2%	+619,200
Appalachia	247,000	5.4%	+2.0%	+ 4,800	214,000	5.4%	+15.4%	+ 32,900
Central Appalachia	9,500	4.5%	+5.9%	+ 500	8,100	4.5%	+18.3%	+ 1,500
C. A. Kentucky	3,500	5.4%	+5.1%	+ 200	2,700	5.2%	+30.5%	+ 800
C. A. Tennessee	1,200	2.4%	-1.6%	- 0	1,100	2.7%	+ 8.3%	+ 100
C. A. Virginia	1,300	4.3%	+8.1%	+ 100	1,200	4.2%	+14.7%	+ 200
C. A. West Virginia	3,500	5.4%	+8.7%	+ 300	3,100	5.2%	+12.8%	+ 400

[a] Data Source: County Business Patterns, 1965, 1969 and 1970, U. S. Department of Commerce, Bureau of the Census, Washington, D. C. These data have been adjusted for disclosure omissions and include only employment covered by the Federal Insurance Contributions Act. See Appendix, page A-8, for important explanatory notes concerning the limitations of these data.

[b] Numbers may not add due to rounding. All calculations performed on unrounded data.

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TABLE III-P

CENTRAL APPALACHIA CONTRACT CONSTRUCTION EMPLOYMENT [a]

	Recent Growth Performance				Summary Growth Performance			
	Construction Employment 1970 [b]	Percent of Major Industrial Group Employment-1970	Percent Growth 1969-1970	Absolute Growth 1969-1970	Construction Employment 1965	Percent of Major Industrial Group Employment-1965	Percent Growth 1965-1970	Absolute Growth 1965-1970
United States	3,197,400	5.6%	+ 0.3%	+8,100	2,824,000	5.9%	+13.2%	+373,400
Appalachia	232,000	5.1%	- 3.9%	-9,500	191,300	4.9%	+21.3%	+ 40,700
Central Appalachia	8,800	4.2%	- 7.5%	- 700	7,400	4.1%	+18.7%	+ 1,400
C. A. Kentucky	3,400	5.3%	-16.7%	- 700	2,700	5.3%	+27.8%	+ 700
C. A. Tennessee	2,200	4.4%	+21.4%	+ 400	2,200	5.2%	+ 1.9%	+ 0
C. A. Virginia	1,000	3.1%	- 7.1%	- 100	800	2.7%	+28.9%	+ 200
C. A. West Virginia	2,200	3.3%	-13.9%	- 400	1,800	3.0%	+21.3%	+ 400

[a] Data Source: County Business Patterns, 1965, 1969 and 1970, U. S. Department of Commerce, Bureau of the Census, Washington, D. C. These data have been adjusted for disclosure omissions and include only employment covered by the Federal Insurance Contributions Act. See Appendix, page A-8, for important explanatory notes concerning the limitations of these data.

[b] Numbers may not add due to rounding. All calculations performed on unrounded data.

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Highlands Appalachia

The impact of the national economic slowdown in 1969-1970 was strongest on Highlands Appalachia: employment fell here by 6,800 jobs at a rate of -1.0%, the greatest decline in both absolute and percent terms experienced by any of the four Appalachias. At the same time, the work force continued to grow, increasing by 6,900 people at a rate of +1.0% (see Table III-Q, page 56). Consequently, unemployment in the Highlands rose significantly from an unemployment rate of 4.2% (29,300 jobless) in 1969 to 6.1% (43,100) in 1970, 32/ the second highest rate in Appalachia.

As was the case in Central Appalachia, considerable "hidden unemployment" 33/ existed in the Highlands during 1970. Estimates made for this area show that, including this factor, the real unemployment rate for this subregion may have been as high as one-fifth of the potential work force. Again, this implies the existence of a large reserve of labor potentially available for industrial and economic growth, and raises important policy questions concerning programs, etc., designed to draw the hidden unemployed back into the working economy. The discussion on this topic in the Central Appalachian subsection is equally relevant for the Highlands (see page 41).

In order to simplify the analysis of the Appalachian Highlands, this subregion has been divided into three areas: the southern Highlands, including the Highland areas of Georgia, North Carolina, South Carolina, and Tennessee; the central Highlands, including the Highland areas of Maryland, Virginia, and West Virginia; and the northern Highlands, including the Highland areas of New York and Pennsylvania. Where appropriate, more specific areas will be discussed.

32/ The absolute changes indicated for Highlands Appalachia in employment, work force and unemployment are somewhat distorted due to the necessary inclusion of data for Monroe County, C.A. West Virginia and the omission of data for the following Highlands counties: Somerset and Forest, Pennsylvania and Blount and Polk in Tennessee. For detailed explanation, see important note on page A-6 of the Appendix. The County Business Patterns employment data for major industrial groups used later in this discussion does not contain this distortion.

33/ The official unemployment rate of 6.1% represents the difference between the number of individuals reported to be in the work force and the employed. Hidden unemployment refers to unemployment which exists but goes unreported because the individuals involved either never enter or have dropped out of the work force.

TABLE III-Q

GROWTH IN WORK FORCE AND EMPLOYMENT IN HIGHLANDS APPALACHIA [a]

	Employment						Work Force					
	Recent Growth Performance			Summary Growth Performance			Recent Growth Performance			Summary Growth Performance		
	Total Employment 1970 (000s)	Percent Growth 1969-1970	Absolute Growth 1969-1970 (000s)	Total Employment 1965 (000s)	Percent Growth 1965-1970	Absolute Growth 1965-1970 (000s)	Work Force 1970 (000s)	Percent Growth 1969-1970	Absolute Growth 1969-1970 (000s)	Work Force 1965 (000s)	Percent Growth 1965-1970	Absolute Growth 1965-1970 (000s)
United States [b]	78,627.0	+ 0.9%	+725.0	71,088.0	+10.6%	+7,539.0	82,715.0	+ 2.5%	+1,982.0	74,455.0	+11.1%	+8,260.0
Appalachia	6,620.8	+ 0.4%	+ 25.7	6,075.1	+ 9.0%	+ 545.8	6,974.1	+ 1.7%	+ 113.8	6,397.7	+ 9.0%	+ 576.5
Highlands Appalachia	664.1	- 1.0%	- 6.8	606.4	+ 9.5%	+ 57.7	707.2	+ 1.0%	+ 6.9	639.5	+10.6%	+ 67.7
H. A. Georgia	20.0	+ 0.1%	+ 0.0	18.1	+10.8%	+ 2.0	21.6	+ 1.2%	+ 0.3	19.5	+10.9%	+ 2.1
H. A. North Carolina	135.1	+ 0.7%	+ 0.9	117.7	+14.8%	+ 17.4	142.8	+ 3.3%	+ 4.5	123.9	+15.3%	+ 19.0
H. A. South Carolina [c]	20.8	+10.9%	+ 2.1	19.2	+ 8.3%	+ 1.6	21.7	+11.3%	+ 2.2	19.9	+ 8.6%	+ 1.7
H. A. Tennessee	88.9	+ 0.0%	+ 0.0	74.7	+19.0%	+ 14.2	95.1	+ 1.8%	+ 1.7	80.0	+18.8%	+ 15.1
H. A. Maryland	6.6	+ 3.6%	+ 0.2	5.6	+17.8%	+ 1.0	7.2	+ 2.9%	+ 0.2	6.2	+15.9%	+ 1.0
H. A. Virginia	22.7	- 0.5%	- 0.1	23.3	- 2.7%	- 0.6	23.7	- 0.1%	- 0.0	24.2	- 2.1%	- 0.5
H. A. West Virginia	25.9	- 1.3%	- 0.3	25.9	+ 0.0%	+ 0.0	29.3	+ 1.7%	+ 0.5	29.1	+ 0.9%	+ 0.3
H. A. New York	37.7	0.0%	0.0	35.7	+ 5.6%	+ 2.0	40.3	+ 1.3%	+ 0.5	38.0	+ 6.1%	+ 2.3
H. A. Pennsylvania	306.4	- 3.0%	- 9.6	286.2	+ 7.1%	+ 20.2	325.5	- 0.9%	- 3.0	298.7	+ 9.0%	+ 26.8

[a] State and regional data were obtained from the State Bureaus of Employment Security; national data were obtained from the Bureau of Labor Statistics. Figures for 1970 are preliminary. Please see Appendix, page A-6, for further important explanatory note.

[b] All state and regional data are rounded to the nearest hundred, national data to the nearest thousand and percentages to the nearest tenth of a percent. Calculations were performed using unrounded figures.

[c] The summary growth performance figures for South Carolina are distorted due to a loss of territory through annexation by another county in 1968.

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As a consequence of the relatively heterogeneous character of this subregion and the selective nature of the national slowdown, the growth experiences of the northern, southern, and central areas were quite different in 1970. The southern state areas produced the only significant employment growth in the Highlands, increasing at a combined rate of approximately +1.2% (3,000 jobs) from 1969 to 1970 (see Table III-Q, page 56). The majority of the Highlands growth in work force also occurred in these state areas (+8,700 workers, combined growth rate: +3.2%). Since the growth in employment was not adequate to provide jobs for the new entrants to the work force as well as the existing unemployed, the rates of unemployment in the southern Highland state areas rose fairly substantially, although they are not the highest in this subregion (see Graph III-C, page 58).

The central portion of the Highlands (H.A. 34/ Maryland, H.A. Virginia, and H.A. West Virginia) remained fairly stable during 1970. Employment did not change significantly here (see Table III-Q, page 56), registering a net loss of -200 jobs (-0.4%). Growth in the work force was moderate, with a small loss in H.A. Virginia offset by small increases in H.A. Maryland and H.A. West Virginia (net gain: 700 workers, +1.1%). Shifts in the unemployment rate were then apparently more a result of changes in the size of the work force than a result of employment changes. Unemployment rose substantially in H.A. West Virginia, slightly in H.A. Virginia, and actually fell slightly in H.A. Maryland (see Graph III-C, page 58).

Events at the national level seem to have had their greatest impact on the northern Highlands state areas of New York and Pennsylvania. While employment in H.A. New York was stable in 1969-1970, employment in H.A. Pennsylvania declined by -3.0% (-9,600 jobs). The work force also declined in H.A. Pennsylvania (-0.9% or -3,000 people), although not as significantly as employment, with the result that the unemployment rate rose from 3.8% in 1969 to 5.8% in 1970. Moderate growth in the work force took place in H.A. New York, resulting in an increase in unemployment here also.

An explanation for the shifts in employment discussed above can be derived from a more detailed examination of the structure of employment in the Highlands.

Manufacturing

Manufacturing is highly important as a source of employment in the Highlands, accounting for almost 53% of employment in the major industrial groups during 1970. Between 1969 and 1970, this type of employment

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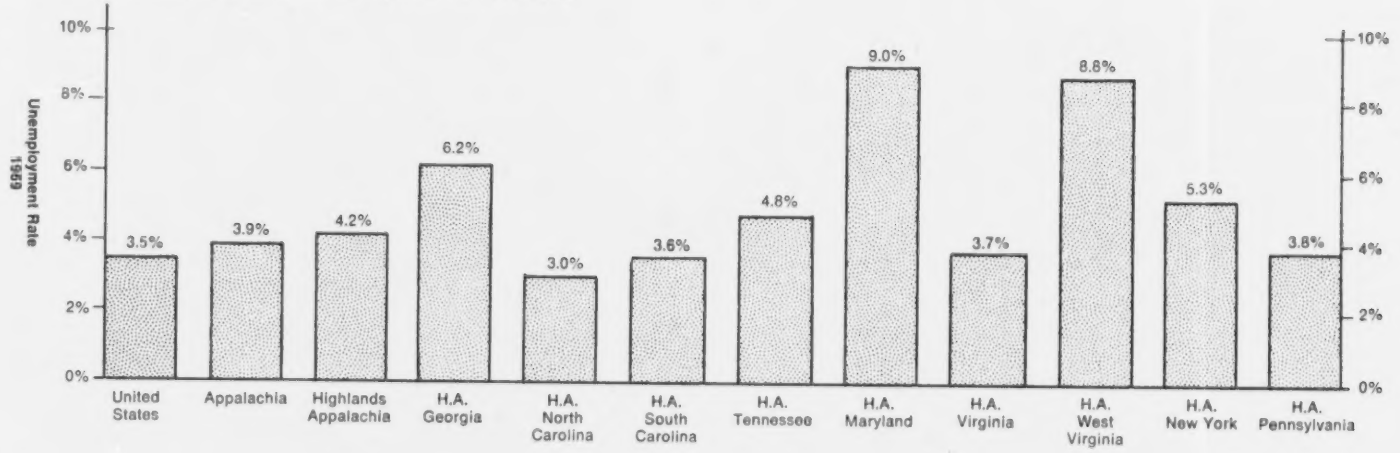
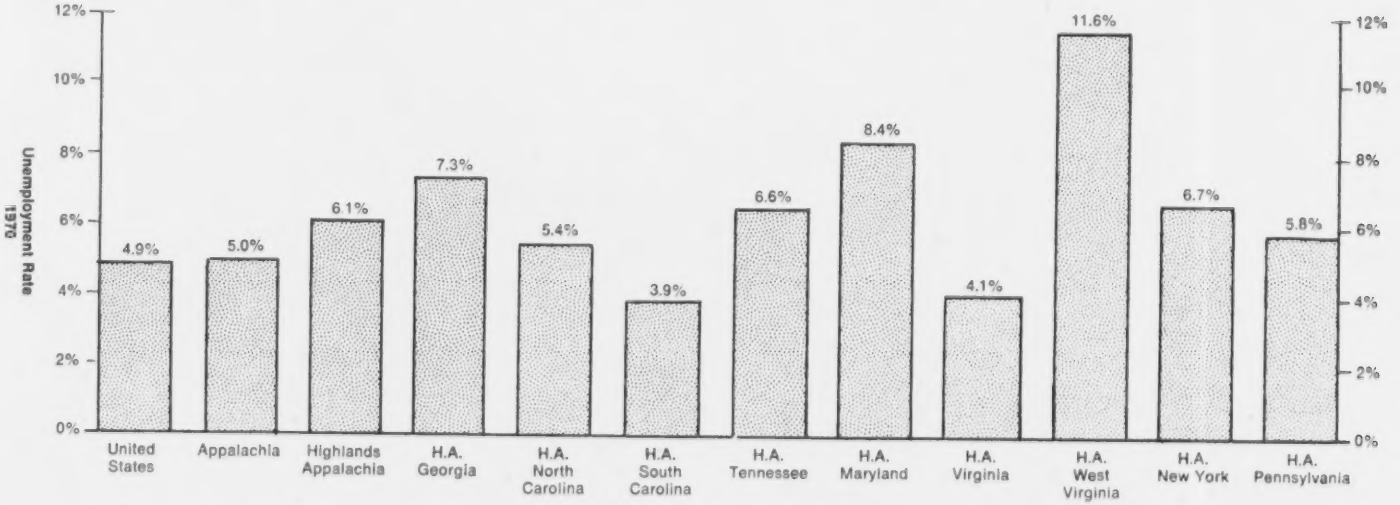
34/ H.A. is the abbreviation for Highlands Appalachia.

GRAPH III—C
Unemployment in Highlands Appalachia, 1969-1970





Data Source: State and Regional data from State Bureaus of Employment Security; National data from Bureau of Labor Statistics (June 1972)

fell more rapidly in the Highlands than in the nation or any other subregion, decreasing at a rate of -3.1% (-7,700 jobs).

Although none of the three Highland areas produced a net increase in manufacturing employment during this period, the majority of the decline occurred in the northern state areas (see Table III-R, page 60). In H.A. New York, employment in this sector fell by -1,100 at a rate of -13.4%, while H.A. Pennsylvania produced a decline of -5,100 manufacturing jobs (-4.7%). The more volatile response of these two state areas to the national decline in this type of employment is a continuation of past trends and is not surprising, considering the overall structure of manufacturing here. The manufacturing sector is relatively diverse, with the largest concentrations of employment involved in the production of textiles and apparel, electronic equipment and supplies, and a wide range of other capital goods and inputs into the industrial process of other industries. 35/ The production of such goods (excluding textiles and apparel) is dependent upon decisions of other firms to either expand, maintain, or lower their scale of production in the future. Firms make these decisions on the basis of their expectations about future demand for their product, costs of production, etc., which are significantly influenced by overall national trends as well as current trends in individual industries. Consequently, the demand for capital goods (including electronic equipment, etc.) and various industrial inputs tends to be sensitive to shifts in national trends, and firms producing such goods adjust their production and employment accordingly. During 1970, employment in almost all categories of capital goods and industrial input production declined in the northern Highlands. Other fairly significant employment losses occurred in the shoe, textile, and apparel industries, and were most likely caused by increased foreign competition and a decline in domestic demand.

The central state areas of H.A. Maryland, H.A. Virginia, and H.A. West Virginia contain relatively little manufacturing (see Table III-R, page 60). As in Central Appalachia, manufacturing here is concentrated in types of production which are characteristic of early stages of development: textiles and apparel, lumber and wood products, paper products, furniture, food products, and leather and leather products. There are also a few higher level firms producing organic and cellulose fibers for the apparel industry, electronic measuring equipment, primary metals, and instruments.

35/ Other types of manufacturing located in H.A. New York and H.A. Pennsylvania are food and kindred products, lumber and wood products, paper and allied products, glassware, furniture and fixtures, printing and publishing, shoes, and tobacco.

TABLE III-R

HIGHLANDS APPALACHIA MANUFACTURING EMPLOYMENT [a]

	Recent Growth Performance				Summary Growth Performance			
	Manufacturing Employment 1970 [b]	Percent of Major Industrial Group Employment-1970	Percent Growth 1969-1970	Absolute Growth 1969-1970	Manufacturing Employment 1965	Percent of Major Industrial Group Employment-1965	Percent Growth 1965-1970	Absolute Growth 1965-1970
United States	19,761,000	34.8%	- 2.1%	-432,400	17,595,100	36.9%	+12.3%	+2,166,500
Appalachia	2,067,500	45.1%	- 1.4%	- 30,100	1,860,600	47.3%	+11.1%	+ 206,900
Highlands Appalachia	238,100	52.6%	- 3.1%	- 7,700	205,800	54.0%	+15.7%	+ 32,300
H. A. Georgia	8,800	66.9%	- 0.6%	- 100	8,100	70.5%	+ 9.1%	+ 700
H. A. North Carolina	60,300	65.2%	- 0.0%	- 0	48,800	66.3%	+23.5%	+ 11,500
H. A. South Carolina	7,300	66.7%	+ 3.5%	+ 200	8,700	78.0%	-16.5%	- 1,400 [c]
H. A. Tennessee	38,700	53.1%	- 1.4%	- 500	29,500	51.1%	+31.2%	+ 9,200
H. A. Maryland	900	28.9%	+23.3%	+ 200	700	31.9%	+18.2%	+ 100
H. A. Virginia	8,400	57.9%	- 9.4%	- 900	8,900	62.3%	- 5.3%	- 500
H. A. West Virginia	4,000	30.0%	-10.3%	- 500	3,400	27.6%	+18.2%	+ 600
H. A. New York	7,100	36.7%	-13.4%	- 1,100	6,700	40.6%	+ 6.7%	+ 400
H. A. Pennsylvania	102,700	48.1%	- 4.7%	- 5,100	91,000	50.0%	+12.8%	+ 11,700

[a] Data Source: County Business Patterns, 1965, 1969 and 1970, U. S. Department of Commerce, Bureau of the Census, Washington, D. C. These data have been adjusted for disclosure omissions and include only employment covered by the Federal Insurance Contributions Act. See Appendix, page A-8, for important explanatory notes concerning the limitations of these data.

[b] Numbers may not add due to rounding. All calculations performed on unrounded data.

[c] The period loss in employment in H. A. South Carolina is primarily the result of a loss of territory through annexation by another county in 1968.

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Manufacturing employment fell in the central state areas by approximately 1,200 jobs from 1969 to 1970 (a slight increase in H.A. Maryland was offset by declines in H.A. Virginia and H.A. West Virginia). Employment in textiles, apparel, and related industries remained fairly constant, while the other industries exhibited a general downward trend. The largest employment loss occurred in the leather industry.

Finally, manufacturing employment in the southern state areas of the Highlands 36/ declined the least over 1969-1970. This type of employment represents a relatively large share of major industrial group employment, ranging from 53% in H.A. Tennessee to almost 67% in H.A. Georgia, and is therefore an important factor in determining the overall level of economic activity.

Although smaller in absolute size, the structure of manufacturing is similar in this portion of the Highlands to the structure in Southern Appalachia and, therefore, much of the explanation for employment shifts is the same. In 1970, approximately 36% of the southern Highlands manufacturing employment was involved in the production of textiles and apparel. In spite of a national decline, growth in this type of manufacturing was positive during 1969-1970, indicating a relatively strong competitive position. Other major manufacturing employers in the southern Highlands include the following industries: furniture and fixtures, electrical equipment and supplies, chemicals and allied products (mostly industrial chemicals and organic fibers), lumber and wood products, paper and allied products and primary metals. 37/ Those industries (other than textiles) producing the largest employment growth during 1969-1970 are electronic equipment and supplies, chemical and allied products, paper products, and instruments. Growth in the chemical industry is strongly related to textiles, while growth in electronic equipment (largely communications) can be related to a national growth trend in communications. Employment declines, which more than offset this growth, occurred in the furniture, lumber, shoe, and fabricated metal industries.

Finance, Insurance, Real Estate and Services

Growth in FIRES accelerated slightly in 1969-1970 in the Highlands, increasing at a rate more rapid than either the nation or the Region as a whole (see Table III-S, page 62). Although significant growth has

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36/ Highlands portions of Georgia, North Carolina, South Carolina, and Tennessee.

37/ Smaller categories of production in this area include food and kindred products, rubber and plastics, leather products, fabricated metal products, nonelectrical machinery, instruments, and stone, clay, and glassware.

TABLE III-S

HIGHLANDS APPALACHIA FINANCE, INSURANCE, REAL ESTATE AND SERVICE INDUSTRY EMPLOYMENT [a]

	Recent Growth Performance				Summary Growth Performance			
	FIRES Employment 1970 [b]	Percent of Major Industrial Group Employment-1970	Percent Growth 1969-1970	Absolute Growth 1969-1970	FIRES Employment 1965	Percent of Major Industrial Group Employment-1965	Percent Growth 1965-1970	Absolute Growth 1965-1970
United States	14,136,400	24.7%	+4.8%	+651,900	10,723,400	22.5%	+ 31.8%	+3,413,000
Appalachia	854,600	18.7%	+4.1%	+ 33,500	651,900	16.6%	+ 31.1%	+ 202,700
Highlands Appalachia	76,400	16.9%	+5.3%	+ 3,900	56,600	14.8%	+ 35.1%	+ 19,900
H. A. Georgia	1,300	9.7%	+9.0%	+ 100	800	7.3%	+ 52.5%	+ 400
H. A. North Carolina	11,900	12.8%	+7.3%	+ 800	7,600	10.3%	+ 56.6%	+ 4,300
H. A. South Carolina [c]	1,100	10.0%	+5.4%	+ 100	800	7.3%	+ 33.7%	+ 300
H. A. Tennessee	11,400	15.6%	+6.0%	+ 600	9,100	15.8%	+ 24.5%	+ 2,200
H. A. Maryland	700	22.6%	+4.7%	+ 0	300	12.8%	+129.7%	+ 400
H. A. Virginia	2,400	16.5%	+3.3%	+ 100	1,700	12.1%	+ 39.1%	+ 700
H. A. West Virginia	3,400	25.7%	+3.4%	+ 100	2,900	23.7%	+ 17.6%	+ 500
H. A. New York	5,100	26.2%	-1.5%	- 100	3,700	22.3%	+ 39.0%	+ 1,400
H. A. Pennsylvania	39,300	13.7%	+5.7%	+ 2,100	29,600	16.2%	+ 32.6%	+ 9,600

[a] Data Source: County Business Patterns, 1965, 1969 and 1970, U. S. Department of Commerce, Bureau of the Census, Washington, D. C. These data have been adjusted for disclosure omissions and include only employment covered by the Federal Insurance Contributions Act. See Appendix, page A-8, for important explanatory notes concerning this data.

[b] FIRES stands for finance, insurance, real estate and services. Numbers may not add due to rounding. All calculations performed on unrounded data.

[c] The summary growth performance figures for South Carolina are distorted due to a loss of territory through annexation by another county in 1968.

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occurred since 1965, this sector remains relatively underdeveloped compared to the national average: in 1970, FIRES accounted for 16.9% of major industrial group employment in the Highlands; in the nation, this sector included 24.7% of major industrial group employment. As in Southern Appalachia, this situation implies the existence of an unsatisfied demand for services, etc., exerting pressure for an increase in the supply of such services. A second factor stimulating growth in this sector has been growth in other sectors of employment, resulting in increased demand for consumer and business services, including finance and real estate. In the past, growth in FIRES has been largely associated with these two factors.

A portion of the explanation for the growth in FIRES during 1969-1970 is the general trend of sustained growth in consumer demand for services which occurred throughout the nation, in spite of the economic slowdown. The growth which took place in the Highlands appears to be roughly coordinated with the existence of an underdeveloped FIRES sector and the greatest gain or least decline in total employment. A partial exception is H.A. Pennsylvania where employment in this sector increased by 2,100 jobs (+5.7%) even though total employment and manufacturing both declined significantly.

Future growth in this sector is likely to be accelerated by the increased development of this subregion's considerable potential as a recreation area of primary importance. This development has begun in several areas and thus has also contributed to the current growth.

Retail and Wholesale Trade

The trade sectors continued to grow more slowly in Highlands Appalachia than in the nation during 1969-1970 (see Tables III-T and III-U, pages 64 and 65). While retail trade employment increased by 2,000 jobs (+2.7%), the net growth in wholesale trade amounted to only 300 jobs (+2.4%) during 1969-1970. Both sectors remain relatively underdeveloped in the Highlands: retail trade employment as a share of major industrial group employment was 16.3% in the Highlands during 1970 compared to 19.3% in the nation; wholesale trade as an employment share in the Highlands was less than half the national average (3.2% compared to 7.0%).

The explanation for the growth trends in these two sectors has not changed significantly from that offered in previous economic reports. The growth which occurred in retail trade during 1969-1970 is roughly associated with trends in urbanization, increasing concentration of population, and growth in manufacturing employment. This is the case in the Highlands portions of New York, North Carolina, Tennessee, and, to some degree, South Carolina. Again, H.A. Pennsylvania, which produced the second largest absolute growth in 1969-1970, presents a special variation of this trend. Manufacturing employment as well as total employment declined fairly significantly in 1969-1970 in this state area, exerting a

TABLE III-T

HIGHLANDS APPALACHIA RETAIL TRADE EMPLOYMENT [a]

	Recent Growth Performance				Summary Growth Performance			
	Retail Trade Employment 1970 [b]	Percent of Major Industrial Group Employment-1970	Percent Growth 1969-1970	Absolute Growth 1969-1970	Retail Trade Employment 1965	Percent of Major Industrial Group Employment-1965	Percent Growth 1965-1970	Absolute Growth 1965-1970
United States	11,071,300	19.3%	+ 3.4%	+364,800	8,963,700	18.8%	+23.5%	+2,107,500
Appalachia	782,700	17.1%	+ 2.7%	+ 20,400	655,500	16.7%	+19.4%	+ 127,100
Highlands Appalachia	74,100	16.3%	+ 2.7%	+ 2,000	62,300	16.3%	+19.0%	+ 11,800
H. A. Georgia	1,800	13.8%	+10.1%	+ 200	1,500	13.0%	+22.1%	+ 300
H. A. North Carolina	10,300	11.1%	+ 3.9%	+ 400	8,600	11.7%	+19.0%	+ 1,600
H. A. South Carolina [c]	1,600	14.5%	+ 9.2%	+ 100	1,200	10.6%	+32.5%	+ 400
H. A. Tennessee	12,800	17.5%	+ 5.0%	+ 600	10,700	18.5%	+19.8%	+ 3,600
H. A. Maryland	900	29.2%	+ 2.3%	+ 0	700	31.0%	+22.9%	+ 200
H. A. Virginia	2,100	14.5%	- 3.9%	- 100	2,000	14.0%	+ 5.6%	+ 100
H. A. West Virginia	2,500	19.2%	+ 3.1%	+ 100	2,400	19.4%	+ 7.4%	+ 200
H. A. New York	4,300	22.3%	+ 3.6%	+ 100	3,800	23.0%	+14.2%	+ 500
H. A. Pennsylvania	37,800	17.7%	+ 1.3%	+ 500	31,400	17.2%	+20.2%	+ 6,400

[a] Data Source: County Business Patterns, 1965, 1969 and 1970, U. S. Department of Commerce, Bureau of the Census, Washington, D. C. These data have been adjusted for disclosure omissions and include only employment covered by the Federal Insurance Contributions Act. See Appendix, page A-8, for important explanatory notes concerning the limitations of these data.

[b] Numbers may not add due to rounding. All calculations performed on unrounded data.

[c] The summary growth performance figures for South Carolina are distorted due to a loss of territory through annexation by another county in 1968.

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TABLE III-U

HIGHLANDS APPALACHIA WHOLESALE TRADE EMPLOYMENT [a]

	Recent Growth Performance				Summary Growth Performance			
	Wholesale Trade Employment 1970 [b]	Percent of Major Industrial Group Employment-1970	Percent Growth 1969-1970	Absolute Growth 1969-1970	Wholesale Trade Employment 1965	Percent of Major Industrial Group Employment-1965	Percent Growth 1965-1970	Absolute Growth 1965-1970
United States	4,036,000	7.0%	+ 2.9%	+115,400	3,434,900	7.2%	+17.5%	+601,100
Appalachia	234,500	5.1%	+ 3.5%	+ 7,900	198,200	5.0%	+18.3%	+ 36,400
Highlands Appalachia	14,500	3.2%	+ 2.4%	+ 300	13,600	3.6%	+ 6.9%	+ 900
H. A. Georgia	200	1.8%	+11.5%	+ 0	200	2.0%	+ 5.2%	+ 0
H. A. North Carolina	1,600	1.8%	+ 6.4%	+ 100	1,700	2.3%	- 3.3%	- 100
H. A. South Carolina [c]	200	1.7%	+17.3%	+ 0	200	1.4%	+20.4%	+ 0
H. A. Tennessee	2,800	3.8%	+ 3.9%	+ 100	2,700	4.7%	+ 1.0%	+ 0
H. A. Maryland	200	5.4%	+ 3.9%	+ 0	100	4.8%	+46.8%	+ 100
H. A. Virginia	200	1.2%	0.0	0	200	1.6%	-23.1%	- 100
H. A. West Virginia	600	4.2%	- 3.4%	- 0	500	4.2%	+ 8.9%	+ 0
H. A. New York	700	3.6%	- 0.9%	- 0	700	4.3%	- 1.6%	- 0
H. A. Pennsylvania	8,100	3.8%	+ 1.2%	+ 100	7,200	4.0%	+12.3%	+ 900

[a] Data Source: County Business Patterns, 1965, 1969 and 1970, U. S. Department of Commerce, Bureau of the Census, Washington, D. C. These data have been adjusted for disclosure omissions and include only employment covered by the Federal Insurance Contributions Act. See Appendix, page A-8, for important explanatory notes concerning the limitations of these data.

[b] Numbers may not add due to rounding. All calculations performed on unrounded data.

[c] The summary growth performance figures for South Carolina are distorted due to a loss of territory through annexation by another county in 1968.

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downward pressure on demand for retail trade activities and thus very likely accounting for the deceleration of growth in these two sectors. Demand for trade activities, however, was increased in part at least as a result of pressures from another source. Although urban population in H.A. Pennsylvania did not grow significantly over the decade of the 1960s, total population (locating largely in areas surrounding but outside the boundaries of small urban centers) increased by 45,800 people. This larger population was an important factor in increasing demand for retail trade activities to serve its needs.

Wholesale trade employment did not change significantly in any single state area during 1969-1970. The continued slow growth and small size of this sector can be attributed to the lack of urbanization in many portions of the Highlands and the consequent small size of the existing wholesale trade markets.

Transportation and Other Public Utilities

Employment growth in transportation and other public utilities was also relatively low compared to the nation during 1969-1970, slowing to an annual growth rate of +2.8% (+500 jobs) while the nation accelerated its growth to +3.6%. Again, this sector was somewhat underdeveloped relative to the nation during 1970, especially the southern portions of the Highlands (see Table III-V, page 68). This is not surprising since growth in this sector is related to the needs of expanding population centers and manufacturing growth. As population continues to move into more concentrated locations and as manufacturing expands in the Highlands, increased pressures will be created for transportation, etc., and growth in this sector should occur.

Highlands Tennessee was the only state area which produced significant growth in transportation and other public utilities during 1969-1970. In H.A. Pennsylvania, employment in this sector actually declined, falling at a rate of -1.7% (-200 jobs).

Contract Construction

During 1969-1970, Highlands Appalachia produced a net gain in construction employment of 400 jobs at an annual rate of growth of +2.1%. This overall trend, however, masks considerable differences among the Highland state areas (see Table III-W, page 69). Again, this is not surprising since the market for construction is highly influenced by local market conditions (interest rates, credit availability, local production costs, etc.).

Of the nine Highland state areas, only North Carolina and Tennessee experienced positive growth during 1969-1970. In each case, the rate of growth was very high, with the greatest absolute growth occurring in H.A. North Carolina (+1,400 jobs). The construction sectors in the Highland

portions of Georgia, South Carolina, Maryland, Virginia, West Virginia and New York are all fairly small and produced small absolute declines. H.A. Pennsylvania contributed the only significant decrease in construction employment, losing 1,200 jobs at an annual rate of -11.8%.

Mining

Highlands Appalachia is the only subregion which experienced a net decline in mining employment during 1969-1970, losing approximately -400 jobs at a rate of -4.7%. This is somewhat surprising in a situation of increasing demand for coal and general increase in mining employment at the national level.

Again, an examination of the three Highland areas reveals substantial variation with respect to the mining sector. The southern Highland areas have a very small share of their total employment involved in mining, and experienced a generally downward trend in this type of employment during 1969-1970 (see Table III-X, page 70). In the central state areas, mining is more important as a share of employment, but is still fairly small in absolute terms. Here again, the general trend in employment was downward, with a small increase in H.A. Virginia offset by a decline in H.A. West Virginia. Finally, the northern state areas, specifically H.A. Pennsylvania, contained approximately two-thirds of all mining employment in this subregion in 1970, and produced the greatest share of the general decline in mining employment from 1969 to 1970 (-300 jobs at a rate of -5.0%).

TABLE III-V

HIGHLANDS APPALACHIA EMPLOYMENT IN TRANSPORTATION AND OTHER PUBLIC UTILITIES [a]

	Recent Growth Performance				Summary Growth Performance			
	Trans., etc. Employment 1970 [b]	Percent of Major Industrial Group Employment-1970	Percent Growth 1969-1970	Absolute Growth 1969-1970	Trans., etc. Employment 1965	Percent of Major Industrial Group Employment-1965	Percent Growth 1965-1970	Absolute Growth 1965-1970
United States	3,837,900	6.7%	+ 3.6%	+134,500	3,218,700	6.7%	+19.2%	+619,200
Appalachia	247,000	5.4%	+ 2.0%	+ 4,800	214,000	5.4%	+15.4%	+ 32,900
Highlands Appalachia	18,800	4.2%	+ 2.8%	+ 500	16,400	4.3%	+15.2%	+ 2,500
H. A. Georgia	300	2.4%	+15.4%	+ 0	200	1.9%	+47.5%	+ 100
H. A. North Carolina	2,100	2.2%	+ 7.5%	+ 100	1,800	2.4%	+18.3%	+ 300
H. A. South Carolina [c]	100	1.0%	+26.7%	+ 0	100	0.9%	+11.8%	+ 0
H. A. Tennessee	2,200	3.1%	+18.1%	+ 300	1,600	2.7%	+43.1%	+ 700
H. A. Maryland	200	5.7%	+ 3.0%	+ 0	100	4.7%	+61.0%	+ 100
H. A. Virginia	600	4.2%	+ 0.5%	+ 0	600	4.0%	+ 7.2%	+ 0
H. A. West Virginia	800	6.4%	+ 4.0%	+ 0	800	6.8%	+ 2.0%	+ 0
H. A. New York	1,400	7.4%	+ 8.7%	+ 100	1,000	6.3%	+38.3%	+ 400
H. A. Pennsylvania	11,000	5.2%	- 1.7%	- 200	10,200	5.6%	+ 8.5%	+ 900

[a] Data Source: County Business Patterns, 1965, 1969 and 1970, U. S. Department of Commerce, Bureau of the Census, Washington, D. C. These data have been adjusted for disclosure omissions and include only employment covered by the Federal Insurance Contributions Act. See Appendix, page A-8, for important explanatory notes concerning the limitations of these data.

[b] Numbers may not add due to rounding. All calculations performed on unrounded data.

[c] The summary growth performance figures for South Carolina are distorted due to a loss of territory through annexation by another county in 1968.

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TABLE III-W

HIGHLANDS APPALACHIA CONTRACT CONSTRUCTION EMPLOYMENT [a/]

	Recent Growth Performance				Summary Growth Performance			
	Construction Employment 1970 [b/]	Percent of Major Industrial Group Employment-1970	Percent Growth 1969-1970	Absolute Growth 1969-1970	Construction Employment 1965	Percent of Major Industrial Group Employment-1965	Percent Growth 1965-1970	Absolute Growth 1965-1970
United States	3,197,400	5.6%	+ 0.3%	+8,100	2,824,000	5.9%	+ 13.2%	+373,400
Appalachia	232,000	5.1%	- 3.9%	-9,500	191,300	4.9%	+ 21.3%	+ 40,700
Highlands Appalachia	20,400	4.9%	+ 2.1%	+ 400	16,400	4.3%	+ 24.6%	+ 4,000
H. A. Georgia	500	3.9%	-21.7%	- 100	300	2.7%	+ 61.6%	+ 200
H. A. North Carolina	4,900	5.3%	+40.0%	+1,400	4,100	5.6%	+ 18.1%	+ 700
H. A. South Carolina [c/]	600	5.5%	- 3.4%	- 0	200	1.7%	+209.2%	+ 400
H. A. Tennessee	4,100	5.6%	+17.1%	+ 600	3,100	5.4%	+ 33.0%	+ 1,000
H. A. Maryland	100	4.1%	- 6.2%	- 0	100	3.2%	+ 69.4%	+ 100
H. A. Virginia	400	2.9%	-11.3%	- 100	600	4.5%	- 34.5%	- 200
H. A. West Virginia	500	3.4%	-17.4%	- 100	400	3.4%	+ 9.9%	+ 0
H. A. New York	600	3.3%	-11.1%	- 100	500	2.9%	+ 35.2%	+ 200
H. A. Pennsylvania	8,700	4.1%	-11.8%	-1,200	7,100	3.9%	+ 22.9%	+ 1,600

[a/] Data Source: County Business Patterns, 1965, 1969 and 1970, U. S. Department of Commerce, Bureau of the Census, Washington, D. C. These data have been adjusted for disclosure omissions and include only employment covered by the Federal Insurance Contributions Act. See Appendix, page A-8, for important explanatory notes concerning the limitations of these data.

[b/] Numbers may not add due to rounding. All calculations performed on unrounded data.

[c/] The summary growth performance figures for South Carolina are distorted due to a loss of territory through annexation by another county in 1968.

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TABLE III-X

HIGHLANDS APPALACHIA MINING EMPLOYMENT [a]

	Recent Growth Performance				Summary Growth Performance			
	Mining Employment 1970 [b]	Percent of Major Industrial Group Employment-1970	Percent Growth 1969-1970	Absolute Growth 1969-1970	Mining Employment 1965	Percent of Major Industrial Group Employment-1965	Percent Growth 1965-1970	Absolute Growth 1965-1970
United States	600,700	1.0%	+ 0.4%	+2,400	599,300	1.3%	+ 0.2%	+1,400
Appalachia	132,300	2.9%	+ 3.2%	+4,100	139,100	3.5%	- 4.9%	-6,800
Highlands Appalachia	7,200	1.6%	- 4.7%	- 400	7,800	2.0%	- 6.9%	- 500
H. A. Georgia	0	0.2%	+ [d]	+ 0	100	1.0%	-76.4%	- 100
H. A. North Carolina	500	0.6%	- 6.0%	- 0	500	0.7%	+12.3%	+ 100
H. A. South Carolina [c]	0	0.0%	-	-	0	0.0%	-	-
H. A. Tennessee	200	0.3%	-12.6%	- 0	500	0.8%	-58.3%	- 300
H. A. Maryland	100	3.2%	-14.7%	- 0	200	10.6%	-61.1%	- 100
H. A. Virginia	300	1.9%	+38.3%	+ 100	200	1.1%	+81.7%	+ 100
H. A. West Virginia	1,300	9.9%	- 7.2%	- 100	1,700	13.7%	-21.2%	- 400
H. A. New York	0	0.0%	-	-	0	0.0%	-	-
H. A. Pennsylvania	4,800	2.2%	- 5.0%	- 300	4,600	2.5%	+ 3.1%	+ 100

[a] Data Source: County Business Patterns, 1965, 1969 and 1970, U. S. Department of Commerce, Bureau of the Census, Washington, D. C. These data have been adjusted for disclosure omissions and include only employment covered by the Federal Insurance Contributions Act. See Appendix, page A-8, for important explanatory notes concerning the limitations of these data.

[b] Numbers may not add due to rounding. All calculations performed on unrounded data.

[c] The summary growth performance figures for South Carolina are distorted due to a loss of territory through annexation by another county in 1968.

[d] Mining employment was zero in 1969.

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Northern Appalachia

Northern Appalachia responded to the national pause in economic growth during 1970 with a slight decline in total employment of -0.1% (-1,600 jobs). At the same time, the work force continued its past trend of moderate growth, increasing at an annual rate of +1.4% (+46,400 workers). This was the second lowest rate of growth produced by any of the four Appalachias. Further, the absolute increase in the size of the work force, although substantial here, was second to that of Southern Appalachia. This is interesting in view of the fact that Northern Appalachia contained approximately half of total Appalachian work force and employment in 1970 (see Table III-Y, page 72).

This large absolute increase in work force combined with the small decline in employment in Northern Appalachia to increase unemployment in 1970 by an amount equal to over half of the increase in unemployment for the entire Region. The unemployment rate rose to 4.9% (168,000 jobless individuals), the same as the national average and the highest unemployment rate in this subregion since 1965. 38/

The inclusion of an estimate for hidden unemployment 39/ in the total unemployment figure for 1970 indicates that the "actual" unemployment problem may be twice as great as that demonstrated by the official unemployment rate. Although hidden unemployment was not as significant a factor in Northern Appalachia as it apparently was in the Highlands and Central Appalachia during this year, it is large enough to warrant attention and further examination in the future. The forces stimulating hidden unemployment are not as obvious in Northern Appalachia as in the other subregions. The overall labor market situation as indicated by the unemployment rate is not significantly worse here than in Southern Appalachia, indicating that most individuals may not be effectively discouraged from entering the market as a consequence of this factor. Two

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38/ The absolute changes indicated for Northern Appalachia in total employment, work force, and unemployment are somewhat distorted due to the necessary omission of data for Boone County, N.A. West Virginia, and the inclusion of data for Forest and Somerset counties in H.A. Pennsylvania. See important note in the Appendix on page A-6 for detailed explanation. The County Business Patterns employment data for major industrial groups used later in this discussion does not contain this distortion.

39/ The official unemployment rate of 4.9% represents the difference between the number of individuals reported to be in the work force and the employed. Hidden unemployment refers to unemployment which exists, but goes unreported because the individuals involved either never enter or have dropped out of the work force.

TABLE III-Y

GROWTH IN WORK FORCE AND EMPLOYMENT IN NORTHERN APPALACHIA [a]

	Employment						Work Force					
	Recent Growth Performance			Summary Growth Performance			Recent Growth Performance			Summary Growth Performance		
	Total Employment 1970 (000s)	Percent Growth 1969-1970	Absolute Growth 1969-1970 (000s)	Total Employment 1965 (000s)	Percent Growth 1965-1970	Absolute Growth 1965-1970 (000s)	Work Force 1970 (000s)	Percent Growth 1969-1970	Absolute Growth 1969-1970 (000s)	Work Force 1965 (000s)	Percent Growth 1965-1970	Absolute Growth 1965-1970 (000s)
United States [b]	78,627.0	+0.9%	+725.0	71,088.0	+10.6%	+7,539.0	82,715.0	+2.5%	+1,982.0	74,455.0	+11.1%	+8,260.0
Appalachia	6,620.8	+0.4%	+ 25.7	6,075.1	+ 9.0%	+ 545.8	6,974.1	+1.7%	+ 113.8	6,397.7	+ 9.0%	+ 576.5
Northern Appalachia	3,246.7	-0.1%	- 1.6	3,050.9	+ 6.4%	+ 195.8	3,420.1	+1.4%	+ 46.4	3,207.7	+ 6.6%	+ 212.4
N. A. Kentucky	68.9	+4.7%	+ 3.1	60.2	+14.4%	+ 8.7	74.0	+6.4%	+ 4.4	64.4	+15.0%	+ 9.6
N. A. Maryland	72.7	+0.1%	+ 0.1	66.7	+ 9.1%	+ 6.0	77.6	+1.5%	+ 1.1	70.4	+10.3%	+ 7.2
N. A. New York	381.0	+0.2%	+ 0.6	366.8	+ 3.9%	+ 14.2	401.7	+1.5%	+ 5.8	376.9	+ 6.6%	+ 24.8
N. A. Ohio	345.7	+0.1	+ 0.3	324.9	+ 6.4%	+ 20.8	365.8	+1.2%	+ 4.5	344.8	+ 6.1%	+ 20.9
N. A. Pennsylvania	1,918.8	-0.4%	- 8.4	1,794.9	+ 6.9%	+ 123.9	2,013.0	+1.1%	+ 22.5	1,801.7	+ 7.0%	+ 131.3
N. A. West Virginia	459.5	+0.6%	+ 2.7	437.3	+ 5.1%	+ 22.2	488.0	+1.7%	+ 8.0	469.5	+ 3.9%	+ 18.5

[a] State and regional data were obtained from the State Bureaus of Employment Security; national data were obtained from the Bureau of Labor Statistics. Figures for 1970 are preliminary. Please see Appendix, page A-6, for further important explanatory note.

[b] All state and regional data are rounded to the nearest hundred, national data to the nearest thousand and percentages to the nearest tenth of a percent. Calculations were performed using unrounded figures.

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possibilities which may, however, be encouraging lack of participation in the work force in this subregion are poor health (particularly in the coal regions), and a lack of skills appropriate to current labor market needs. Since industry has been concentrated in this area for a relatively long time, many individuals with skills needed in the labor market 20 years ago may not find those same skills applicable in today's economy. This has occurred, for example, in the deep mining of coal, now highly mechanized and requiring highly skilled labor (of which there is a current scarcity). Again, the existence and causes of hidden unemployment are important from a public policy standpoint and require further research and analysis.

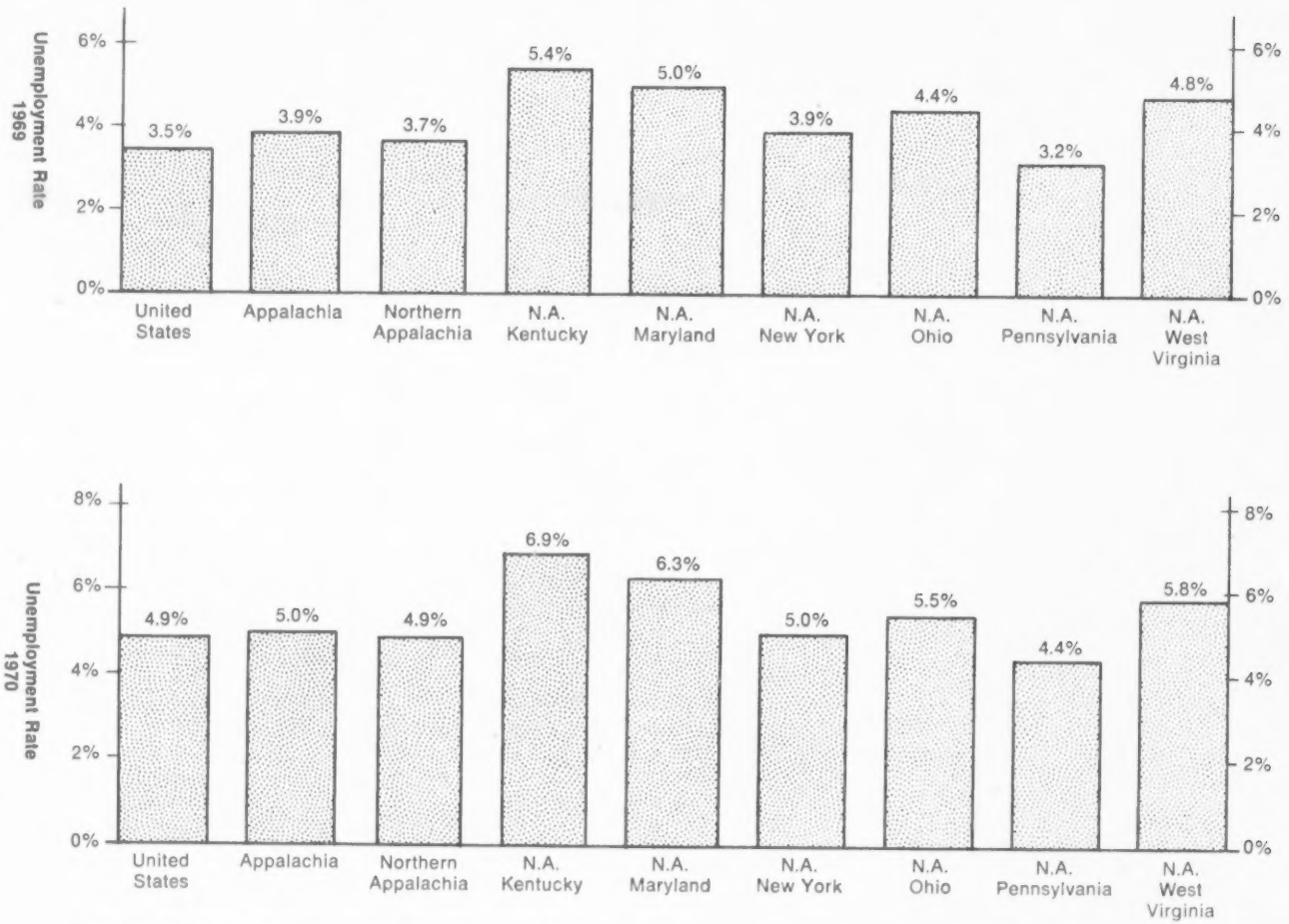
The individual state areas in Northern Appalachia experienced a variety of different overall growth trends in 1969-1970 (see Table III-Y, page 72). Northern Appalachian (N.A.) Pennsylvania was the only state area which produced an actual decline in employment during this year, losing approximately 8,400 jobs at an annual rate of decline of -0.4%. This is somewhat of a reversal of the trend of the previous five years when N.A. Pennsylvania, with approximately 59% of the Northern Appalachian work force in 1965, produced over two-thirds of the total growth in employment from 1965 to 1969. The work force in this area continued to grow during 1969-1970 (+22,500 people at a rate of +1.1%), with the result that unemployment rose from a relatively low 3.2% in 1969 to 4.4% in 1970. This rate is less than that of any other Northern Appalachian state area as well as less than that of the nation.

The Northern Appalachian states of Maryland, New York and Ohio experienced a very slight increase in employment during 1969-1970. Combined with a moderate growth in work force, this resulted in an increase in unemployment in all three state areas during 1970 (see Graph III-D, page 74).

N.A. Kentucky produced the largest absolute and highest rate of growth in employment from 1969 to 1970 of any of this subregion's state areas (+3,100 jobs or +4.7%). However, growth in the work force was also relatively substantial with the result that unemployment rose from 5.4% in 1969 to 6.9% in 1970, the highest rate of unemployment in Northern Appalachia. N.A. West Virginia, with a much larger total employment, experienced the second largest absolute employment growth during 1969-1970. Again, a larger increase in the size of the work force caused unemployment to rise significantly from 4.8% in 1969 to 5.8% in 1970.

The following discussion examines individual employment sectors in an attempt to provide a greater understanding of the shifts in employment and unemployment which have occurred in Northern Appalachia.

GRAPH III—D
Unemployment in Northern Appalachia, 1969-1970



Data Source: State and Regional data from State Bureaus of Employment Security; National data from Bureau of Labor Statistics

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Manufacturing

Manufacturing is heavily concentrated in Northern Appalachia which, during 1970, accounted for almost half of all manufacturing employment in the Region. This sector contained approximately 43% of all major industrial group employment in Northern Appalachia in 1970 and, consequently, has been highly influential in determining trends in other sectors of this subregion's economy. Following the national trend, manufacturing employment in Northern Appalachia fell at an annual rate of -1.8% or slightly better than the national decline of -2.1% (see Table III-Z, page 76).

In 1970, N.A. Pennsylvania contained almost two-thirds of all manufacturing employment in this subregion and, between 1969 and 1970, was responsible for by far the greatest absolute decline in this type of employment (-12,700 jobs at a rate of -2.0%). An examination of the structure of manufacturing in this state area helps to explain this response to the more general national slowdown. Manufacturing in N.A. Pennsylvania is very diverse with large concentrations of employment producing primary metals (mostly iron, steel and aluminum), fabricated metal products, nonelectrical machinery, electrical equipment and supplies, textiles and apparel, and administrative and auxiliary activities. Other smaller, but still substantial areas of employment include food products, transportation equipment, paper products, printing and publishing, and stone, clay, and glassware.

As a consequence of its heavy concentration in the production of capital goods and inputs into the production process of other firms (e.g., primary metals, machinery, construction equipment), N.A. Pennsylvania is very vulnerable to the investment and output decisions of final goods producing firms. As mentioned previously in the discussion on the northern Highland state areas, firms producing final consumer goods and services make these decisions based on their expectations about future demand for their product, costs of production, etc., which are significantly influenced by overall national trends as well as current trends in the individual industry. Therefore, the demand for capital goods and industrial inputs tends to be sensitive to shifts in national trends, and firms producing such goods adjust their output and employment accordingly. The year 1970 was one of national economic slowdown and decline in many sectors. Many firms were delaying or simply dropping plans for new investment, cutting back on production and reducing inventories of inputs into their production process. Thus, it is not at all surprising that manufacturing employment in N.A. Pennsylvania fell during 1969-1970. Major declines attributable to the above factors occurred in the following industries: primary metals; fabricated metal products; nonelectrical machinery (e.g., construction, metalworking); and instruments. Fairly significant employment losses also occurred in stone, clay and glassware, furniture, and apparel (the latter as a result of increased foreign competition and slackening domestic demand).

TABLE III-2

NORTHERN APPALACHIA MANUFACTURING EMPLOYMENT [a]

	Recent Growth Performance				Summary Growth Performance			
	Manufacturing Employment 1970 [b]	Percent of Major Industrial Group Employment-1970	Percent Growth 1969-1970	Absolute Growth 1969-1970	Manufacturing Employment 1965	Percent of Major Industrial Group Employment-1965	Percent Growth 1965-1970	Absolute Growth 1965-1970
United States	19,761,000	34.8%	-2.1%	-432,400	17,595,100	36.9%	+12.3%	+2,166,500
Appalachia	2,067,500	45.1%	-1.4%	- 30,100	1,860,600	47.3%	+11.1%	+ 206,900
Northern Appalachia	990,000	42.8%	-1.8%	- 18,200	946,500	46.0%	+ 4.6%	+ 43,500
N. A. Kentucky	18,100	46.4%	+2.8%	+ 500	13,600	44.0%	+33.0%	+ 4,500
N. A. Maryland	25,800	48.4%	-0.5%	- 100	23,000	48.7%	+12.2%	+ 2,800
N. A. New York	126,300	48.6%	-1.1%	- 1,400	118,300	51.7%	+ 6.7%	+ 8,000
N. A. Ohio	87,400	41.1%	-1.1%	- 1,000	80,700	44.2%	+ 8.4%	+ 6,700
N. A. Pennsylvania	621,100	43.2%	-2.0%	- 12,700	598,800	46.7%	+ 3.7%	+ 22,300
N. A. West Virginia	111,400	35.8%	-3.1%	- 3,500	112,100	39.3%	- 0.7%	- 800

[a] Data Source: County Business Patterns, 1965, 1969 and 1970, U. S. Department of Commerce, Bureau of the Census, Washington, D. C. These data have been adjusted for disclosure omissions and include only employment covered by the Federal Insurance Contributions Act. See Appendix, page A-[illegible], for important explanatory notes concerning the limitations of these data.

[b] Numbers may not add due to rounding. All calculations performed on unrounded data.

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Partially offsetting increases in employment took place in the electrical equipment and supplies, and paper and allied products industries. Growth in electrical equipment and supplies (e.g., transformers, conductors, communications equipment) was stimulated by increased demand from the electric utilities and communications industries which, faced by rising demand combined with service breakdowns in existing systems, increased investment outlays significantly in 1970.

The manufacturing sector in N.A. New York, although much smaller in absolute size, is somewhat similar to that of N.A. Pennsylvania in structure. Employment is involved in a variety of types of production, with heavy concentrations in the production of inputs for other industries and capital goods, especially nonelectrical machinery (office equipment, construction equipment, metalworking, and general industrial machinery). This state area also experienced a net decline in employment during 1969-1970 of -1,400 jobs (-1.1%). Those industries responsible for net employment losses were approximately the same as in N.A. Pennsylvania and, therefore, the explanation for the decline is essentially the same.

The manufacturing sector in N.A. Ohio is, again, similar to that in N.A. New York and N.A. Pennsylvania, although the 1969-1970 decline in employment was somewhat more moderate here (-1,000 jobs at a rate of -1.1%). Again, employment is primarily in capital goods and industrial input products, with the heaviest concentration in the production of primary metals. Small declines in primary metals, nonelectrical machinery, paper products, lumber and wood products, and stone, clay and glassware were offset by moderate growth in electrical equipment and supplies, transportation equipment, and printing and publishing.

N.A. West Virginia experienced the most rapid rate of decline (-3.1%) and the second largest absolute decline (-3,500 jobs) in manufacturing employment in Northern Appalachia over this period. Approximately 40% of all manufacturing employment in this area is concentrated in chemicals and allied products (primarily for industrial use), and stone, clay and glassware. Smaller amounts of employment are involved in the production of a variety of goods including textiles and apparel, food products, fabricated metal products, primary metals, nonelectrical machinery, and electrical equipment and supplies. Although no really substantial net declines occurred in any individual type of manufacturing, most industries experienced either stationary employment or a moderate decline.

N.A. Maryland and N.A. Kentucky contained the two smallest 40/ manufacturing sectors in this subregion during 1970 although, as a share of major industrial group employment, manufacturing is important in each state area (46.4% in N.A. Kentucky; 48.4% in N.A. Maryland). Given their

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40/ In absolute terms.

absolute size, manufacturing in these two areas is fairly diverse, with some concentration in the production of industrial inputs and capital goods, as well as textiles and apparel, lumber and wood products, paper products, food products, transportation equipment and miscellaneous manufacturing. N.A. Kentucky was the only state area in Northern Appalachia to experience positive growth in this type of employment during 1969-1970, increasing at the fairly satisfactory rate of +2.8% (500 jobs). This is a continuation of the fairly strong growth trend experienced by N.A. Kentucky over the past five years. Manufacturing employment in N.A. Maryland was fairly stable between 1969 and 1970.

Finance, Insurance, Real Estate and Services

Northern Appalachian employment in FIRES continued to grow during 1969-1970, increasing at a rate of +3.1% (13,800 jobs). This was the lowest rate of growth experienced by any subregion during this period and was also less than the national growth of +4.8%. Again, this relatively slow growth performance is a continuation of the trend of 1965-1969 and can be partially explained by the previous pattern of slow growth and by the large absolute decline in manufacturing employment during 1969-1970. This has resulted in a relatively slow growth in the effective demand for services, etc., by business and the local population. As before, some portion of the explanation may also be found in the relative level of development of this sector compared to that of the other subregions. Although FIRES is smaller in Northern Appalachia than in the nation as a share of major industrial group employment (see Table III-AA, page 79), it is larger here than in any other subregion, implying a higher level of development and provision of services, and a lower level of pressure for growth from past accumulated demand. That growth which did occur is very likely an extension of a national trend of growth in demand for consumer services in spite of increases in unemployment.

There were no readily discernible trends among the individual state areas in Northern Appalachia with respect to growth in FIRES employment during 1969-1970. N.A. Pennsylvania and N.A. New York produced the most rapid rates of growth followed closely by N.A. Ohio. In N.A. Maryland, employment in this sector was fairly stable while small losses were produced by the Northern Appalachian portions of West Virginia and Kentucky.

Retail and Wholesale Trade

Growth in retail and wholesale trade decelerated somewhat in 1969-1970: retail trade employment fell from an annual growth rate of +3.2% in 1968-1969 to +2.4% in 1969-1970, while wholesale trade employment growth fell from +3.5% to +2.7%. The slowing of growth in these two sectors was, again, related to the deceleration and declines experienced in other major sectors of employment which would exert a softening influence on demand.

TABLE III-AA

NORTHERN APPALACHIA FINANCE, INSURANCE, REAL ESTATE AND SERVICE INDUSTRY EMPLOYMENT [a]

	Recent Growth Performance				Summary Growth Performance			
	FIRES Employment 1970 [b]	Percent of Major Industrial Group Employment-1970	Percent Growth 1969-1970	Absolute Growth 1969-1970	FIRES Employment 1965	Percent of Major Industrial Group Employment-1969	Percent Growth 1965-1970	Absolute Growth 1965-1970
United States	14,136,400	24.7%	+4.8%	+651,900	10,723,400	22.5%	+31.8%	+3,413,000
Appalachia	854,600	18.7%	+4.1%	+ 33,500	651,900	16.6%	+31.1%	+ 202,700
Northern Appalachia	459,800	19.9%	+3.1%	+ 13,800	365,000	17.7%	+26.0%	+ 94,800
N. A. Kentucky	6,000	15.5%	-3.1%	- 200	4,400	14.1%	+38.6%	+ 1,700
N. A. Maryland	9,300	17.5%	+0.8%	+ 100	7,400	15.7%	+26.3%	+ 1,900
N. A. New York	50,000	19.2%	+3.8%	+ 1,800	39,900	17.5%	+25.1%	+ 10,000
N. A. Ohio	37,100	17.5%	+3.7%	+ 1,300	27,100	14.9%	+36.9%	+ 10,000
N. A. Pennsylvania	298,000	20.7%	+3.8%	+ 10,900	237,400	18.5%	+25.5%	+ 60,500
N. A. West Virginia	59,400	19.1%	-0.3%	- 200	48,800	17.1%	+21.8%	+ 10,600

[a] Data Source: County Business Patterns, 1965, 1969 and 1970, U. S. Department of Commerce, Bureau of the Census, Washington, D. C. These data have been adjusted for disclosure omissions and include only employment covered by the Federal Insurance Contributions Act. See Appendix, page A-, for important explanatory notes concerning this data.

[b] FIRES stands for finance, insurance, real estate and services. Numbers may not add due to rounding. All calculations performed on unrounded data.

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In general, Northern Appalachia has produced the slowest growth in the trade sectors of any of the four subregions, both in 1969-1970 and on average for 1965-1970 (see Tables III-BB and III-CC, pages 81 and 82). This is a result of two factors: relatively slow growth in total employment and manufacturing; a fairly stable pattern of urbanization. With respect to the latter, Northern Appalachia has, in general, been characterized by an urban pattern of population location for a relatively long period of time. This is in direct contrast to large portions of the other three subregions which have been characterized by rural, dispersed population patterns. The trend toward increasing population concentration and urbanization is thus relatively new in such areas. As mentioned in earlier discussions, eventually the concentration of population in a given area reaches a point where the market size is large enough for retail and wholesale trade enterprises (other than single-proprietorships with no employees or family operated businesses) 41/ to operate at a profit and the trade sector expands. In Northern Appalachia, where urbanization is not new and where population is already concentrated in established patterns, many areas had already attained this level of concentration, and thus much of the growth stimulated by this factor had already occurred. Consequently, current trends in trade sector expansion are more closely allied with the overall economic and employment situation in a given locality. The long-term trends in the individual state areas support this analysis.

Transportation and Other Public Utilities

Northern Appalachia, compared to the rest of the Region, has had a reasonably well-developed transportation and public utilities sector. Employment in this sector continued its recent pattern of relatively slow growth, increasing only slightly during 1969-1970 (see Table III-DD, page 84). As in the case of the trade sectors, this may be explained by the relatively slow increase in manufacturing and employment which has occurred in Northern Appalachia and by the existence of a traditional and established pattern of urbanization.

The experience of the individual state areas varied somewhat. The most rapid and greatest absolute increase took place in N.A. Ohio. N.A. Kentucky, with a fairly small sector (in absolute size), N.A. West Virginia and N.A. New York all produced moderate growth, while N.A. Maryland remained relatively stable. N.A. Pennsylvania, which experienced the greatest declines in total employment and manufacturing, also experienced the most rapid and largest drop in employment in transportation and other public utilities.

41/ Not included in the County Business Patterns data series used for this analysis.

TABLE III-BB

NORTHERN APPALACHIA RETAIL TRADE EMPLOYMENT a/

	Recent Growth Performance				Summary Growth Performance			
	Retail Trade Employment 1970 b/	Percent of Major Industrial Group Employment-1970	Percent Growth 1969-1970	Absolute Growth 1969-1970	Retail Trade Employment 1965	Percent of Major Industrial Group Employment-1965	Percent Growth 1965-1970	Absolute Growth 1965-1970
United States	11,071,300	19.3%	+3.4%	+364,800	8,963,700	18.8%	+23.5%	+2,107,500
Appalachia	782,700	17.1%	+2.7%	+ 20,400	655,500	16.7%	+19.4%	+ 127,100
Northern Appalachia	416,000	18.0%	+2.4%	+ 9,600	350,300	17.0%	+18.8%	+ 65,800
N. A. Kentucky	7,100	18.2%	+3.2%	+ 200	6,000	19.2%	+19.3%	+ 1,100
N. A. Maryland	9,700	18.1%	-2.3%	- 200	8,800	18.6%	+10.1%	+ 900
N. A. New York	47,800	18.4%	+2.6%	+ 1,200	38,800	17.0%	+23.1%	+ 9,000
N. A. Ohio	44,400	20.9%	+3.1%	+ 1,300	37,500	20.6%	+18.1%	+ 6,800
N. A. Pennsylvania	252,800	17.6%	+2.4%	+ 5,900	210,900	16.4%	+19.9%	+ 41,900
N. A. West Virginia	54,400	17.5%	+2.1%	+ 1,100	48,300	16.9%	+12.5%	+ 6,000

a/ Data Source: County Business Patterns, 1965, 1969 and 1970, U. S. Department of Commerce, Bureau of the Census, Washington, D. C. These data have been adjusted for disclosure omissions and include only employment covered by the Federal Insurance Contributions Act. See Appendix, page A-5, for important explanatory notes concerning the limitations of these data.

b/ Numbers may not add due to rounding. All calculations performed on unrounded data.

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TABLE III-CC

NORTHERN APPALACHIA WHOLESALE TRADE EMPLOYMENT a/

	Recent Growth Performance				Summary Growth Performance			
	Wholesale Trade Employment 1970 b/	Percent of Major Industrial Group Employment-1970	Percent Growth 1969-1970	Absolute Growth 1969-1970	Wholesale Trade Employment 1965	Percent of Major Industrial Group Employment-1965	Percent Growth 1965-1970	Absolute Growth 1965-1970
United States	4,096,000	7.0%	+2.9%	+115,400	3,434,900	7.2%	+17.5%	+601,100
Appalachia	234,500	5.1%	+3.5%	+ 7,900	198,200	5.0%	+18.4%	+ 36,400
Northern Appalachia	124,800	5.4%	+2.7%	+ 3,300	106,200	5.2%	+17.5%	+ 18,600
N. A. Kentucky	1,800	4.7%	-3.4%	- 100	1,300	4.3%	+38.2%	+ 500
N. A. Maryland	2,300	4.3%	+1.4%	+ 0	2,100	4.5%	+ 9.2%	+ 200
N. A. New York	12,300	4.8%	+0.8%	+ 100	11,200	4.9%	+10.3%	+ 1,200
N. A. Ohio	8,600	4.0%	+2.5%	+ 200	7,400	4.1%	+15.7%	+ 1,200
N. A. Pennsylvania	81,200	5.6%	+2.9%	+ 2,300	69,100	5.4%	+17.5%	+ 12,100
N. A. West Virginia	18,600	6.0%	+4.4%	+ 800	15,100	5.3%	+23.1%	+ 3,500

a/ Data Source: County Business Patterns, 1965, 1969 and 1970, U. S. Department of Commerce, Bureau of the Census, Washington, D. C. These data have been adjusted for disclosure omissions and include only employment covered by the Federal Insurance Contributions Act. See Appendix, page A-1, for important explanatory notes concerning the limitations of these data.

b/ Numbers may not add due to rounding. All calculations performed on unrounded data.

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Contract Construction

Reacting sharply to a general national trend of decreased residential construction demand and sluggish business demand for construction (caused by high interest rates, tight credit, and uncertain economic conditions), the construction industry in Northern Appalachia shifted from an employment growth of +2.8% in 1968-1969 to a loss of -5.1% (-5,900 jobs) during 1969-1970. As in every other subregion, the individual state areas produced a wide variety of trends during 1969-1970 in response to specific local market conditions 42/ (see Table III-EE, page 85). N.A. West Virginia was the only state area to produce a significant positive growth in construction employment over this period, increasing at a rate of +6.8% (1,200 jobs). N.A. Maryland and N.A. Ohio both produced relatively small, but positive growth in this type of employment. The greatest absolute decline in the construction industry was experienced by N.A. Pennsylvania which lost 6,500 employees in this sector at a rate of -8.9%. This is a reversal of the strong growth trend in construction employment which occurred here over 1965-1969. Finally, N.A. New York and N.A. Kentucky both experienced relatively moderate declines in this sector.

Mining

Employment in Northern Appalachia's mining industry grew moderately in 1969-1970, increasing at a rate of +1.8% (1,100 jobs). This overall growth performance was more rapid than that of the nation, but less rapid than that of the Region as a whole.

Again, the experience of the individual state areas differed widely. Mining, as a share of major industrial group employment, was significant in only three of the six Northern Appalachian state areas: West Virginia, Ohio, and Pennsylvania (see Table III-FF, page 86). In response to the increasing demand for coal, N.A. West Virginia and N.A. Ohio produced the only positive growth in this type of employment which occurred in Northern Appalachia from 1969 to 1970. In N.A. Ohio, this was a continuation of the trend of the last five years resulting from an expansion of strip mining into this area. N.A. Pennsylvania, which had the largest mining sector in the subregion, continued to decline, although at a much slower rate than in the previous four years. The Northern Appalachian state areas of Kentucky, Maryland and New York all had relatively small mining sectors and experienced small absolute declines during 1969-1970.

42/ The market for construction is highly localized and depends on such factors as local public and private investment decisions, interest rates, credit availability, and production costs.

TABLE III-DD

NORTHERN APPALACHIA EMPLOYMENT IN TRANSPORTATION AND OTHER PUBLIC FACILITIES a/

	Recent Growth Performance				Summary Growth Performance			
	Trans., etc. Employment 1970 b/	Percent of Major Industrial Group Employment-1970	Percent Growth 1969-1970	Absolute Growth 1969-1970	Trans., etc. Employment 1965	Percent of Major Industrial Group Employment-1965	Percent Growth 1965-1970	Absolute Growth 1965-1970
United States	3,837,900	6.7%	+3.6%	+134,500	3,218,700	6.7%	+19.2%	+619,200
Appalachia	247,000	5.4%	+2.0%	+ 4,800	214,000	5.4%	+15.4%	+ 32,900
Northern Appalachia	140,300	6.1%	+0.5%	+ 700	127,500	6.2%	+10.1%	+ 12,900
N. A. Kentucky	2,700	6.8%	+3.3%	+ 100	2,400	7.6%	+13.5%	+ 300
N. A. Maryland	3,200	6.0%	-0.6%	- 0	3,000	6.3%	+ 8.0%	+ 200
N. A. New York	11,800	4.6%	+2.8%	+ 300	10,500	4.6%	+12.6%	+ 1,300
N. A. Ohio	13,300	6.3%	+5.1%	+ 600	11,500	6.3%	+16.4%	+ 1,900
N. A. Pennsylvania	84,800	5.9%	-1.2%	- 1,100	77,200	6.0%	+ 9.9%	+ 7,600
N. A. West Virginia	24,500	7.9%	+3.0%	+ 700	23,000	8.1%	+ 6.4%	+ 1,500

a/ Data Source: County Business Patterns, 1965, 1969 and 1970, U. S. Department of Commerce, Bureau of the Census, Washington, D. C. These data have been adjusted for disclosure omissions and include only employment covered by the Federal Insurance Contributions Act. See Appendix, page A-8, for important explanatory notes concerning the limitations of these data.

b/ Numbers may not add due to rounding. All calculations performed on unrounded data.

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TABLE III-EE

NORTHERN APPALACHIA CONTRACT CONSTRUCTION EMPLOYMENT [a]

	Recent Growth Performance				Summary Growth Performance			
	Construction Employment 1970 [b]	Percent of Major Industrial Group Employment-1970	Percent Growth 1969-1970	Absolute Growth 1969-1970	Construction Employment 1965	Percent of Major Industrial Group Employment-1965	Percent Growth 1965-1970	Absolute Growth 1965-1970
United States	3,197,400	5.6%	+ 0.3%	+8,100	2,824,000	5.9%	+13.2%	+373,400
Appalachia	232,000	5.1%	- 3.9%	-9,500	191,300	4.9%	+21.3%	+ 40,700
Northern Appalachia	110,300	4.8%	- 5.1%	-5,900	87,800	4.3%	+25.4%	+ 23,200
N. A. Kentucky	2,400	6.1%	-11.8%	- 300	2,400	7.9%	- 3.3%	- 100
N. A. Maryland	2,600	4.9%	+ 6.4%	+ 200	2,500	5.3%	+ 4.8%	+ 100
N. A. New York	9,700	3.7%	- 4.6%	- 500	8,500	3.7%	+14.0%	+ 1,200
N. A. Ohio	10,200	4.8%	+ 0.3%	+ 0	8,800	4.8%	+16.7%	+ 1,500
N. A. Pennsylvania	66,700	4.6%	- 8.9%	-6,500	51,500	4.0%	+29.6%	+ 15,200
N. A. West Virginia	19,300	6.2%	+ 6.8%	+1,200	14,100	4.9%	+36.9%	+ 5,200

[a] Data Source: County Business Patterns, 1965, 1969 and 1970, U. S. Department of Commerce, Bureau of the Census, Washington, D. C. These data have been adjusted for disclosure omissions and include only employment covered by the Federal Insurance Contributions Act. See Appendix, page A-7, for important explanatory notes concerning the limitations of these data.

[b] Numbers may not add due to rounding. All calculations performed on unrounded data.

TABLE III-FF

NORTHERN APPALACHIA MINING EMPLOYMENT [a]

	Recent Growth Performance				Summary Growth Performance			
	Mining Employment 1970 [b]	Percent of Major Industrial Group Employment-1970	Percent Growth 1969-1970	Absolute Growth 1969-1970	Mining Employment 1965	Percent of Major Industrial Group Employment-1965	Percent Growth 1965-1970	Absolute Growth 1969-1970
United States	600,700	1.0%	+ 0.4%	+2,400	599,300	1.3%	+ 0.2%	+1,400
Appalachia	132,300	2.9%	+ 3.2%	+4,100	139,100	3.5%	- 4.9%	-6,800
Northern Appalachia	63,000	2.7%	+ 1.8%	+1,100	67,600	3.3%	- 6.8%	-4,600
N. A. Kentucky	300	0.7%	- 0.4%	- 0	300	1.0%	-12.4%	- 0
N. A. Maryland	200	0.4%	-13.3%	- 0	300	0.6%	-26.7%	- 100
N. A. New York	500	0.2%	- 9.0%	- 100	800	0.3%	-34.1%	- 300
N. A. Ohio	10,100	4.8%	+ 4.7%	+ 500	8,700	4.7%	+16.7%	+1,400
N. A. Pennsylvania	29,700	2.1%	- 0.8%	- 200	35,100	2.7%	-15.5%	-5,500
N. A. West Virginia	22,200	7.1%	+ 4.7%	+1,000	22,400	7.8%	- 0.8%	- 200

[a] Data Source: County Business Patterns, 1965, 1969 and 1970, U. S. Department of Commerce, Bureau of the Census, Washington, D. C. These data have been adjusted for disclosure omissions and include only employment covered by the Federal Insurance Contributions Act. See Appendix, page A-3, for important explanatory notes concerning the limitations of these data.

[b] Numbers may not add due to rounding. All calculations performed on unrounded data.

June 1972

Current Employment Trends in Appalachian Major Labor Market Areas

The employment picture continued to worsen within the nation's 150 major labor market areas (MLMAs) 43/ during 1971. However, the rate of deterioration in the national labor market diminished, leaving the economy at a high, but stable, level of unemployment in 1971. Unemployment in the MLMAs rose from 2.6 million to 3.2 million (a +24% increase), as unemployment increased to 5.6% of the work force. This represented a slight decline in the rate of expansion in unemployment compared to that of the previous year, when unemployment rose by more than 700,000: an increase of +40% above the 1969 levels. Employment remained relatively stable at approximately 54 million.

Sharp differences were experienced among the 150 areas. MLMAs in the Northeast, New England and the Far West continued to experience the highest rate of unemployment. These areas have been particularly dependent on defense-related industries -- communications equipment, aircraft and parts, and ordnance and accessories equipment -- where employment cutbacks continued to produce weaknesses within these labor markets. Other sections of the country, particularly the South and Southwest, tended to fare somewhat better.

Within the 16 Appalachian MLMAs, labor market performance in 1971 presents a somewhat ambiguous picture. Employment within the areas remained relatively stable, continuing to hover at the 2.7 million mark. The number of unemployed, however, jumped sharply upward, rising from 115,000 in 1970 to 147,000 in 1971 -- an increase of +32,000, or +28%. This represented a slight decrease in the rate of growth of unemployment from the previous years (+33% in 1969-1970), but in terms of absolute increase, a slight rise in growth in the number of unemployed (+28,000 in 1970 as compared to +32,000 in 1971). Consequently, the rate of unemployment rose rather sharply, climbing from an average rate of unemployment of 4.1% to 5.2% between 1970 and 1971. This increase in the rate of unemployment was roughly comparable to that experienced on average

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43/ A major labor market area (MLMA) consists of at least one central city with a population of 50,000 or more and the surrounding territory within commuting distance. At present there are 150 major labor market areas for which statistics are compiled and reported by the Department of Labor. Of these, 16 lie entirely within the boundaries of Appalachia -- eight in northern states, three in central and five in southern states. The 16 Appalachian areas include the following metropolitan areas: Birmingham, Alabama; Binghamton, New York; Asheville, North Carolina; Steubenville, Ohio-Wierton, West Virginia; Altoona, Erie, Johnstown, Pittsburgh, Scranton and Wilkes-Barre-Hazelton, Pennsylvania; Greenville, South Carolina; Chattanooga and Knoxville, Tennessee; and Charleston, Huntington, West Virginia-Ashland, Kentucky and Wheeling, West Virginia.

for all 150 areas. Thus, the position of the Appalachian areas relative to that of other MLMAs remained relatively unchanged.

Reviewing individual labor market areas reveals significant variations. Unemployment ranged from a low of 3.4% of the work force in Knoxville, Tennessee, to a high of 8.1% in Huntington, West Virginia-Ashland, Kentucky. Seven areas (five in the South and two in the North 44/ experienced rates of unemployment below the average for all 150 areas, and only three areas (two in the South and one in the North) -- compared to nine in 1970 -- exhibited rates of unemployment below 4%.

As can be seen by the above statistics and those in Tables III-GG and III-HH (pages 89 and 90), MLMAs in the northern portion of the Region experienced the most serious deterioration in their labor market positions. Softness in durable goods industries, primarily machinery and electrical equipment, due to contained weaknesses in capital goods industries, was the primary source of further decline in employment and rising levels of unemployment within the New York, Pennsylvania, and West Virginia MLMAs. Declines in production and employment in primary metals industries occurred in the latter part of the year due to cutbacks in orders as users attempted to reduce their inventories, built up in anticipation of a steel strike (which did not occur) in the summer of 1971. These factors were largely responsible for raising unemployment levels in the Pittsburgh and Birmingham areas. Slowing growth in the demand for coal due to the decline in production of primary metals, together with a strike in the mining sector, led to continued deterioration of employment conditions in the West Virginia areas.

The southern areas benefited from low concentrations of employment in the cyclically sensitive durable goods sectors, and from continued strong competitive position of their textile and apparel industries. The southern average rate of unemployment was only slightly above 4%. This compares to a rate of unemployment of nearly 5.5% for northern areas, and to a 6.5% rate for central areas.

44/ In 1970, a total of nine areas -- four in northern states and five in southern states -- had rates of unemployment below the average for all 150 areas. In this section, New York, Pennsylvania, and Ohio are considered to be northern states, West Virginia a central state, and Alabama, North Carolina, South Carolina, and Tennessee southern states. These are the only states in the Region containing major labor market areas.

TABLE III-GG
CURRENT TRENDS IN APPALACHIAN MAJOR LABOR MARKET AREAS[a/]

	WORK FORCE						TOTAL EMPLOYMENT					
	Work Force[b/] 1971 (000)	Percent Growth 1970-71	Absolute Growth 1970-71 (000)	Work Force[c/] 1970 (000)	Percent Growth 1970	Absolute Growth 1969-70 (000)	Total Employment 1971 (000)	Percent Growth 1970-71	Absolute Growth 1970-71 (000)	Total Employment 1970[c/] (000)	Percent Growth 1969-70	Absolute Growth 1969-70 (000)
TOTAL 150 MLMAs in the UNITED STATES	56,787.3	+0%	+202.7	56,584.6	+2%	+982.1	53,625.2	-1%	-400.7	54,025.9	+0%	+220.7
16 APPALACHIAN MLMAs	2,809.9	+1%	+ 17.7	2,792.0	+1%	+ 32.2	2,663.0	-1%	- 14.1	2,677.1	+0%	+ 4.1
Southern MLMAs	845.3	+1%	+ 7.5	837.8	+1%	+ 7.6	809.5	+0%	+ 3.1	806.4	+0%	+ 1.0
Birmingham, Ala.	314.8	+2%	+ 6.6	308.2	+2%	+ 7.2	299.5	+1%	+ 3.8	295.7	+2%	+ 5.2
Asheville, N.C.	64.1	+0%	+ 0.2	63.9	-1%	- 0.5	61.8	+0%	+ 0.1	61.7	-2%	- 1.2
Greenville, S.C.	143.5	-0%	- 0.3	143.8	+1%	+ 1.0	137.4	-1%	- 1.1	138.5	-0%	- 0.5
Chattanooga, Tn.	154.1	+2%	+ 3.6	150.5	+1%	+ 1.2	147.7	+2%	+ 2.9	144.8	-0%	- 0.2
Knoxville, Tn.	168.8	-2%	- 2.6	171.4	-1%	- 1.3	163.1	-2%	- 2.6	165.7	-1%	- 2.3
Central MLMAs	272.7	+2%	+ 4.9	267.8	+1%	+ 3.7	255.2	+1%	+ 1.9	253.3	+1%	+ 1.6
Charleston, W.Va.	98.1	+2%	+ 1.6	96.5	+0%	+ 0.4	92.9	+1%	+ 1.1	91.8	-0%	- 0.2
Huntington-Ashland, W.Va.	102.7	+1%	+ 1.4	101.3	+2%	+ 2.4	94.4	-0%	- 0.5	94.9	+1%	+ 1.0
Wheeling, W.Va.	71.9	+3%	+ 1.9	70.0	+1%	+ 0.9	67.9	+2%	+ 1.3	66.6	+1%	+ 0.8
Northern MLMAs	1,691.8	+0%	+ 5.3	1,686.5	+1%	+ 21.0	1,598.3	-1%	- 19.2	1,617.5	+0%	+ 1.5
Binghamton, N.Y.	122.8	-2%	- 2.6	125.4	+0%	+ 0.5	115.3	-4%	- 4.3	119.6	-1%	- 0.9
Steubenville-Weirton, Oh.	66.9	+2%	+ 1.2	65.7	+2%	+ 1.2	64.3	+1%	+ 0.9	63.4	+1%	+ 0.9
Altoona, Pa.	55.6	-1%	- 0.5	56.1	+2%	+ 1.1	52.4	-3%	- 1.3	53.7	+1%	+ 0.5
Erie, Pa.	113.8	-0%	- 0.4	114.2	+2%	+ 2.6	108.2	-2%	- 1.7	109.9	+1%	+ 1.5
Johnstown, Pa.	93.9	+0%	+ 0.2	93.7	+1%	+ 0.7	87.4	-1%	- 0.9	88.3	-1%	- 0.6
Pittsburgh, Pa.	994.0	+1%	+ 7.9	986.1	+1%	+ 10.4	941.5	-1%	- 8.8	950.3	-0%	- 1.0
Scranton, Pa.	99.6	-1%	- 0.8	100.4	+0%	+ 0.4	93.1	-2%	- 1.7	94.8	-1%	- 1.1
Wilkes-Barre-Hazleton, Pa.	145.2	+0%	+ 0.3	144.9	+3%	+ 4.1	136.1	-1%	- 1.4	137.5	+2%	+ 2.2

a/ Source: U. S. Department of Labor: Manpower Administration.
b/ Work Force, Employment and Unemployment Data rounded to hundreds. Percentage figures rounded to nearest whole number. (+0% actual data between +0.5% and +0.0%; -0% actual data between -0.5% and -0.1%.).
c/ Revised.
d/ For purposes of this section, MLMAs in the States of Alabama, North and South Carolina, and Tennessee are grouped together as Southern MLMAs, West Virginia areas as central MLMAs, and New York, Ohio, and Pennsylvania labor areas as northern MLMAs.

June 1972

TABLE III-HH
CURRENT TRENDS IN APPALACHIAN MAJOR LABOR MARKET AREAS[a/]

	UNEMPLOYMENT							
	Unemployment 1971[b/] (000)	Percent Growth 1970-71	Absolute Growth 1970-71 (000)	Unemployment Rate 1971	Unemployment 1970[c/] (000)	Percent Growth 1969-70	Absolute Growth 1969-70 (000)	Unemployment Rate 1970
TOTAL 150 MLMAs in the UNITED STATES	3,152.1	+24%	+603.5	5.6%	2,598.6	+42%	+761.3	4.9%
16 APPALACHIAN MLMAs	147.0	+28%	+ 32.0	5.2%	115.0	+33%	+ 28.3	4.1%
Southern MLMAs	35.9	+14%	+ 4.4	4.2%	31.0	+27%	+ 6.7	3.8%
Birmingham, Ala.	15.3	+22%	+ 2.8	4.9%	12.5	+19%	+ 2.0	4.1%
Asheville, N.C.	2.3	+ 5%	+ 0.1	3.6%	2.2	+47%	+ 0.7	3.1%
Greenville, S.C.	6.1	+15%	+ 0.8	4.2%	5.3	+39%	+ 1.5	3.7%
Chattanooga, Tn.	6.4	+12%	+ 0.7	4.1%	5.7	+33%	+ 1.4	3.8%
Knoxville, Tn.	5.8	+ 0%	+ 0.0	3.4%	5.3	+23%	+ 1.1	3.1%
Central MLMAs	17.6	+21%	+ 3.0	6.5%	14.6	+18%	+ 2.2	5.6%
Charleston, W.Va.	5.3	+13%	+ 0.6	5.4%	4.7	+15%	+ 0.6	4.5%
Huntington-Ashland, W.Va.	8.3	+28%	+ 1.8	8.1%	6.5	+30%	+ 1.5	6.4%
Wheeling, W.Va.	4.0	+18%	+ 0.6	5.6%	3.4	+ 3%	+ 0.1	4.9%
Northern MLMAs	93.5	+36%	+ 24.5	5.5%	69.0	+39%	+ 19.5	4.1%
Binghamton, N.Y.	7.5	+32%	+ 1.8	6.1%	5.7	+30%	+ 1.3	4.8%
Steubenville-Weirton, Oh.	2.6	+13%	+ 0.3	3.9%	2.3	+15%	+ 0.3	3.6%
Altoona, Pa.	3.2	+36%	+ 0.8	5.8%	2.4	+33%	+ 0.6	4.2%
Erie, Pa.	5.6	+28%	+ 1.3	4.9%	4.3	+34%	+ 1.1	3.9%
Johnstown, Pa.	6.5	+20%	+ 1.1	6.9%	5.4	+32%	+ 1.3	5.8%
Pittsburgh, Pa.	52.5	+47%	+ 16.7	5.3%	35.8	+47%	+ 11.4	3.6%
Scranton, Pa.	6.5	+17%	+ 0.9	6.6%	5.6	+37%	+ 1.5	5.6%
Wilkes-Barre-Hazleton, Pa.	9.1	+21%	+ 1.6	6.2%	7.5	+36%	+ 2.0	5.1%

a/ Source: U. S. Department of Labor: Manpower Administration
b/ Work Force, Employment and Unemployment Data rounded to hundreds. Percentage figures rounded to nearest whole number. (+0% actual data between +0.5% and+0.0%; -0% actual data between -0.5% and -0.1%.)
c/ Revised
d/ For purposes of this section, MLMAs in the States of Alabama, North and South Carolina, and Tennessee are grouped together as Southern MLMAs; West Virginia areas as central MLMAs, and New York, Ohio, and Pennsylvania labor areas as northern MLMAs

IV. RECENT TRENDS IN INCOME AND POVERTY

The shifts in employment which have been taking place throughout the Appalachian Region have been accompanied by important changes in income and the incidence of poverty. Therefore, this section presents, in two subsections, a discussion of the most recent available trends in total and per capita income (1968-1969), and a descriptive analysis of shifts in the incidence of poverty between 1960 and 1970.

Income

Appalachia continued to experience encouraging growth in income during 1969. Regional income increased by an average of $230 per person as per capita income 45/ rose from $2,740 in 1968 to $2,970 in 1969. This represented a growth of +8.3% in Appalachian per capita income which compares favorably with a +7.8% increase for the nation. Growth in total personal income was more modest with total income increasing by $4 billion or +8.2% -- slightly below the national performance. Thus, Appalachia seems to have generally kept pace with national growth in personal income during 1969, while making small, but nevertheless significant, gains in per capita income relative to the United States.

45/ Per capita personal income is equal to total personal income accruing to persons in a given location divided by the population in that same location. Personal income is defined as income received from all sources by individuals in a given location over a one-year period. This includes income from wages and salaries, net incomes of unincorporated businesses, rental income, dividends, interest payments and various government and business transfer payments. It is measured prior to deduction of income and other personal taxes, but after deduction of personal contributions to Social Security and other government retirement programs. Note: Tables showing per capita income (residence adjusted) by state are included in the Appendix, page A-9. These estimates have been refined to reflect the residence of the earner. Estimates used in previous years' reports were not so adjusted.

In response to a general slowing down of economic activity in 1968-1969, regional and national income growth tapered off slightly during the year. Both Appalachia and the nation displayed a rate of growth in income approximately one-half percentage point lower than that produced in 1967 to 1968. Regional growth in per capita income remained strong, however, as per capita income increased at a rate only slightly below that of the previous year. This contrasted with the U. S. experience where, as in the case of total income, the rate of growth in per capita income declined by approximately one-half percentage point.

Statistics on total and per capita income provide useful measures of the flow of financial resources to residents of the Region for the purchase of goods and services. However, differences in prices among areas and over time make these statistics less useful in drawing conclusions about the relative economic well-being of different areas and changes in economic welfare over time. For example, an area with the same income at two points in time could actually suffer a deterioration (appreciation) of its real income if prices rise (fall). Similarly, two areas with identical money income could have different real incomes if there are substantial differences in the level of prices between the two areas. Consequently, estimates of income in current dollars (unadjusted for inflation or price differences between locations) should be adjusted to account for the above factors in order to provide more accurate measures of actual economic well-being. 46/

Appalachian real income estimated in 1958 dollars 47/ rose by $1.6 billion between 1968 and 1969. (Income in current dollars grew from $49.8 to $53.9 billion, or by $4.1 billion.) This represented an average increase of $90 per person as real regional per capita income rose to

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46/ The absence of reliable indicators on current levels and historical trends in prices for Appalachia dictated the use of a national index to convert income in current dollars to constant dollar or real income estimates. The implicit price deflator for personal consumption expenditures was selected for the purpose. Use of this procedure, while providing satisfactory estimates of real income, invites caution in interpreting the resulting statistics. Use of a single index to adjust both regional and national income essentially assumes that no differences exist between regional and national price levels and rates of inflation. This is a very tenuous assumption. Due to this deficiency, the estimates should be treated only as crude approximations which serve to indicate relative trends and levels, but are not accurate estimates of Appalachian real income.

47/ Constant dollar or real income was estimated by dividing income in current dollars by the national implicit price deflator for personal consumption expenditures. This adjusted figure provides an estimate of real income in constant 1958 dollars.

$2,400 in 1969 ($2,990 for the total United States). Rates of growth in both real personal and per capita incomes fell below that of the previous year as national and regional economic growth began to slow, resulting in rising excess industrial capacity, layoffs, and cutbacks in the work week. Growth in real personal income fell from +5.0% in 1968 to +3.8% in 1969. Similarly, growth in regional real per capita income slowed from an annual rate of increase of +4.8% to +3.9%. Both these declines in regional rates of growth in real income were roughly equivalent to that found in national rates of growth.

The above analysis of regional income trends masks significant variations within the Region in levels and trends in income. The following is devoted to an analysis of the patterns of growth in the four Appalachias.

Southern Appalachia

During 1969, Southern Appalachia achieved a highly satisfactory growth in income. Personal income increased by $160 million (the second highest absolute increase in the Region) as total income rose to $16 billion for the year. This 10% growth in income not only exceeded the national rate of growth, but also resulted in a rapid increase in per capita income, which rose from $2,550 in 1968 to $2,800 in 1969. This represented an increase in per capita income of +9.5%, a rate significantly above both the regional and national performance. Consequently, Southern Appalachia experienced the greatest advance in per capita income relative to that of the United States. Southern Appalachian income rose from 74% to 76% of that of the nation between 1968 and 1969.

This expansion in income was fairly broad-based with almost all industrial sectors exceeding the national average rate of growth for their sectors. The exceptions were in mining, government, finance, insurance and real estate, and services. With the exception of mining, which is a relatively small and unimportant sector in this subregion, the sectors showing relatively slow growth were primarily service-oriented industries. These industries have in the past been relatively underdeveloped sectors within the Southern Appalachian economy. Their slow growth during 1969 probably reflects sensitivity to a slackening of growth in manufacturing earnings.

Growth in transfer payments and income from other non-earned sources 48/ remained fairly strong in Southern Appalachia, although down slightly from

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48/ Non-earned income consists of income arising from past investments in income producing assets (i.e., rental income, dividends and interest payments) and from transfer payments from government and business. This latter group consists in general of disbursements to persons for which no services are currently rendered, and includes such items as unemployment benefits, Social Security, welfare and relief payments from government, and retirement and health insurance payments from businesses.

growth in the previous years. Rapid growth in incomes and employment within Southern Appalachia served to support rental and property income as well as earnings of unincorporated businesses, despite the general national decline in growth of non-earned income. Encouragingly, the rate of growth in transfer payments slowed significantly in response to rising employment and incomes. The rate of growth in transfer payments fell from a rate of growth of +14% to +9% between 1967-1968 and 1968-1969.

Central Appalachia

Central Appalachia is the smallest and poorest of the subregions. Total personal income was only $2.7 billion, or only 5% of total regional income in 1969. Per capita income was $1,950 -- only 52% of the United States and roughly two-thirds that of average Appalachian per capita income.

Between 1968 and 1969, growth in income slackened significantly. The rate of personal income growth fell from +9.5% in 1967-1968 to slightly over +7% for 1968-1969. Growth in per capita income also slowed, but still remained above both the regional and national rates of increase in per capita incomes.

The slackening of growth in earnings and income occurred throughout the Central Appalachian economy, as almost every sector experienced rates of growth significantly lower than the national rates of growth for their respective industrial sectors. The exceptions to this were manufacturing, mining, and contract construction. Each of these industries maintained rates of growth equal to or only slightly below that of the national rates for these industries. Almost all service-oriented industries (e.g., government, services, trade, finance, insurance and real estate) experienced exceptionally low rates of growth in earnings. This partially reflects the effects of low incomes, high rates of unemployment, and the generally dispersed pattern of population distribution in limiting effective demand for these sectors.

Growth in non-earned income has generally followed national patterns of growth, but at much lower levels. The most significant factor to note in these trends is the continued decline in the rate of growth in transfer payments. Between 1968 and 1969, growth in transfers declined from a rate of increase of +11% to +7%. These payments generally provide for low income allowances and, unless recipients have supplementary sources of income, for low levels of family income. The high ratio of transfer payments to total personal income (16.7% in 1969, almost double the national average) suggests that reliance on transfer payments is a significant contributor to low incomes within the area. As already noted, low income levels limit effective demand, and thus growth, in local market-oriented industries. The decline in the rate of growth in these payments probably reflects in part at least the effect

of continued outmigration. However, it may also indicate that a shift of families away from reliance on these payments is occurring, thus indicating an improvement in the growth potential of the area.

Highlands Appalachia

Income growth in Highlands Appalachia remained reasonably strong, although slowing slightly from previous years' rates of advance. Personal income increased by $436 million (+8.6%), raising total income for the subregion to $5.5 billion. Per capita income increased by $220 or +8.6%, as subregional per capita income rose to $2,770 or to 75% of U. S. per capita income. Overall growth in income was satisfactory: per capita income increased faster than that of the nation, while total income advanced at only slightly below the U. S. rate of growth.

Manufacturing supported by strong increases in transportation, communications, public utilities, finance and real estate were the primary sectors underlying the rapid increase in income. Diversification of manufacturing activity into more complex and higher earnings sectors in the southern portions of the Highlands, together with expansion in employment in the northern areas, seem to have been contributing factors leading to the growth in earnings from manufacturing.

The trade and service sectors generally experienced relatively slow growth in this subregion. These industries have been underdeveloped sectors in the Highlands, which possibly reflects the dispersed population patterns characteristic of many areas (see employment discussion) and the effect of concentration of manufacturing employment in low-wage industries. The finance, insurance and real estate sectors experienced relatively strong growth during 1969. This reflects in part the effect of an increased demand for vacation homes and recreational activity in the Highlands.

Northern Appalachia

Northern Appalachia is the largest of the four Appalachian subregions in both total income and employment. In 1969, it accounted for $28.9 billion or 54% of total Appalachian income. It is also the wealthiest of the four subregions with a per capita income of $3,290 -- only 89% of that of the U. S. but over 111% of Appalachian per capita income.

This subregion experienced a somewhat disappointing growth in income during 1969. In Northern Appalachia, personal income increased by $2 billion or +7.2%. While this was the largest absolute increase in income of the four subregions, it represented the lowest rate of increase. Expressed in a slightly different manner, Northern Appalachia had 54% of total Appalachian income, but accounted for only 47% of the growth in total regional income in 1969.

Growth in per capita income showed the same general tendencies as personal income growth. Per capita income rose by roughly $230 or +7.5%. This was the second highest absolute increase in per capita income but, again, the lowest rate of increase for any Appalachian subregion. Further, Northern Appalachia was the only subregion to fall below the national rate of increase in per capita income. Consequently, it suffered a slight decline in its per capita income relative to that of the United States.

Continued slow growth in manufacturing, together with declines in the rate of growth of earnings from services and the finance, insurance and real estate sectors were adequate to depress the rate of growth of total earnings despite slight increases in the rates for mining, farming, and retail and wholesale trade. Almost all industrial sectors exhibited growth trends below their respective national rates of growth. Mining, farming and government earnings were the sole exceptions, but both mining and farming are small and relatively insignificant as income-generating sectors. Growth in state and local government earnings constituted the largest component of the increase in government earnings. This strong growth in earnings probably reflects an effort to restore parity with earnings in other areas since in previous years growth in state and local earnings has been significantly below the U. S. average rate of growth for this sector.

Earnings growth in manufacturing suffered heavily in 1969. Earnings increased by only +6%, almost 2 percentage points below the national rate of growth for this sector. The slow growth in manufacturing can probably be explained by the heavy concentration of manufacturing activity in primary and fabricated metals and related capital goods industries (see employment section for further discussion). Sluggish growth in manufacturing earnings very likely served to depress earnings growth in other related sectors.

Growth in non-earned income also fell off during 1969. Profits were significantly affected by the twin thrust of increased production costs and declining business activity which lowered revenues. Growth in dividends and earnings of unincorporated businesses fell as a result of these two factors. Further, slow growth in earned income within Northern Appalachia served to depress housing demand, retarding growth in rental and property incomes. An encouraging sign, however, was the drop in the rate of growth in transfer payments which fell from +12% to +9% between 1968 and 1969.

TABLE IV-A

GROWTH IN TOTAL PERSONAL AND PER CAPITA INCOME[a/]

	PERSONAL INCOME						PER CAPITA INCOME					
	Recent Growth Performance			Summary Growth Performance			Recent Growth Performance			Summary Growth Performance		
	Total Income 1969 (millions)	Percent Growth 1968-69	Absolute Growth 1968-69 (millions)	Total Income 1965 (millions)	Percent Growth 1965-69	Absolute Growth 1965-69 (millions)	Per Capita Income 1969 [b/]	Percent Growth 1968-69	Absolute Growth 1968-69	Per Capita Income 1965	Percent Growth 1965-69	Absolute Growth 1965-69
UNITED STATES	$744,479.0	+ 8.9%	+$60,777.0	$534,816.0	+39.2%	+$209,663.0	$3,700	+ 7.8%	+$270	$2,760	+33.8%	+$930
APPALACHIA	53,905.8	+ 8.2%	+ 4,103.5	39,604.4	+36.1%	+ 14,301.4	2,970	+ 8.3%	+ 230	2,190	+35.4%	+ 780
SOUTHERN APPALACHIA	16,788.0	+10.2%	+ 1,553.6	11,844.2	+41.7%	+ 4,943.8	2,800	+ 9.5%	+ 240	2,030	+38.1%	+ 770
CENTRAL APPALACHIA	2,723.7	+ 7.2%	+ 182.9	2,005.4	+35.8%	+ 718.3	1,950	+ 9.2%	+ 170	1,360	+43.4%	+ 590
HIGHLANDS APPALACHIA	5,488.2	+ 8.6%	+ 436.1	3,900.0	+40.7%	+ 1,588.2	2,770	+ 8.6%	+ 220	1,990	+39.1%	+ 780
NORTHERN APPALACHIA	28,905.9	+ 7.2%	+ 1,930.9	21,854.8	+32.3%	+ 7,051.1	3,290	+ 7.5%	+ 230	2,490	+32.4%	+ 810

[a/] Source: Department of Commerce: Bureau of Economic Analysis

[b/] Estimates of Total Personal and Per Capita income have been residence adjusted. 1969 Data are preliminary and subject to change.

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TABLE IV-B

UNITED STATES PERSONAL INCOME AND EARNINGS BY MAJOR SOURCE[a/]
(Millions of Dollars)

	Recent Growth Performance				Summary Growth Performance			
	Income & Earnings 1969[b/]	Percent of Total Income 1969	Percent Growth 1968-1969	Absolute Growth 1968-1969	Income & Earnings 1965[b/]	Percent of Total Income 1965	Percent Growth 1965-1969	Absolute Growth 1965-1969
TOTAL PERSONAL INCOME	$744,479.0	100.0%	+ 9%	+$60,777.0	$534,816.0	100.0%	+39%	+$209,663.0
TOTAL EARNINGS	599,050.0	80.5%	+ 9%	+ 50,407.0	431,395.0	80.7%	+39%	+ 167,655.0
Farm	19,445.0	2.6%	+11%	+ 1,920.0	17,507.0	3.3%	+11%	+ 1,938.0
Mining	6,154.0	0.8%	+13%	+ 690.0	4,894.0	0.9%	+26%	+ 1,260.0
Manufacturing	174,267.0	23.4%	+ 8%	+ 13,083.0	127,696.0	23.9%	+36%	+ 46,571.0
Contract Construction	36,773.0	4.9%	+12%	+ 3,961.0	26,453.0	5.0%	+39%	+ 10,320.0
Transportation, Communications & Public Utilities	41,625.0	5.6%	+10%	+ 3,762.0	30,797.0	5.8%	+35%	+ 10,828.0
Wholesale & Retail Trade	98,363.0	13.2%	+ 9%	+ 8,165.0	73,500.0	13.7%	+34%	+ 24,863.0
Finance, Insurance & Real Estate	31,234.0	4.2%	+ 9%	+ 2,500.0	21,858.0	4.1%	+43%	+ 9,376.0
Services	88,203.0	11.9%	+10%	+ 8,189.0	59,874.0	12.6%	+47%	+ 28,329.0
Government	101,303.0	13.6%	+ 9%	+ 8,004.0	67,490.0	11.2%	+50%	+ 33,813.0
Other	1,683.0	0.2%	+ 9%	+ 133.0	1,326.0	0.3%	+27%	+ 357.0
TOTAL NON-EARNED INCOME	171,422.0	23.0%	+ 9%	+ 13,796.0	116,815.0	21.9%	+47%	+ 54,607.0
TRANSFER PAYMENTS	65,084.0	8.7%	+10%	+ 5,903.0	39,719.0	7.4%	+64%	+ 25,365.0

a/ Data Source: U. S. Department of Commerce, Bureau of Economic Analysis

b/ Data are not adjusted for residence. 1969 statistics are preliminary estimates and subject to change. Total earned and non-earned income will not sum to total personal income due to exclusion of Social Security payments from personal income.

June, 1972

TABLE IV-C

SOUTHERN APPALACHIA PERSONAL INCOME AND EARNINGS BY MAJOR SOURCE[a/]
(Millions of Dollars)

	Recent Growth Performance				Summary Growth Performance			
	Income & Earnings 1969[b/]	Percent of Total Income 1969	Percent Growth 1968-1969	Absolute Growth 1968-1969	Income & Earnings 1965[b/]	Percent of Total Income 1965	Percent Growth 1965-1969	Absolute Growth 1965-1969
TOTAL PERSONAL INCOME	$16,506.2	100.0%	+10%	+$1,467.9	$11,708.5	100.0%	+41%	+$4,797.7
TOTAL EARNINGS	13,630.9	82.6%	+10%	+ 1,248.1	9,615.0	82.1%	+42%	+ 4,016.0
Farm	638.6	3.9%	+22%	+ 115.7	501.9	4.3%	+27%	+ 136.8
Mining	104.1	0.6%	+ 9%	+ 8.6	84.4	0.7%	+23%	+ 19.7
Manufacturing	5,126.5	31.1%	+10%	+ 447.9	3,592.2	30.7%	+43%	+ 1,534.3
Contract Construction	775.1	4.7%	+14%	+ 94.4	543.7	4.6%	+43%	+ 231.4
Transportation, Communications & Public Utilities	778.7	4.7%	+12%	+ 80.5	545.6	4.7%	+43%	+ 233.1
Wholesale & Retail Trade	1,986.8	12.0%	+ 9%	+ 169.2	1,460.0	12.5%	+36%	+ 526.7
Finance, Insurance & Real Estate	488.6	3.0%	+ 8%	+ 37.4	341.6	2.9%	+43%	+ 147.1
Services	1,709.4	10.4%	+ 9%	+ 145.6	1,182.2	10.1%	+45%	+ 527.2
Government	1,996.7	12.1%	+ 8%	+ 146.8	1,343.7	11.5%	+49%	+ 653.0
Other	26.4	0.2%	+ 8%	+ 2.0	19.9	0.2%	+33%	+ 6.6
TOTAL NON-EARNEI INCOME	3,465.5	21.1%	+ 9%	+ 292.4	2,391.2	20.4%	+45%	+ 1,074.3
TRANSFER PAYMENTS	1,564.2	9.5%	+ 9%	+ 130.0	977.7	8.4%	+60%	+ 586.5

a/ Data Source: U. S. Department of Commerce, Bureau of Economic Analysis

b/ Data are not adjusted for residence. 1969 statistics are preliminary estimates and subject to change. Total earned and non-earned income will not sum to total personal income due to exclusion of Social Security payments from personal income.

June, 1972

TABLE IV-D

CENTRAL APPALACHIA PERSONAL INCOME AND EARNINGS BY MAJOR SOURCE[a/]
(Millions of Dollars)

	Recent Growth Performance				Summary Growth Performance			
	Income & Earnings 1969[b/]	Percent of Total Income 1969	Percent Growth 1968-1969	Absolute Growth 1968-1969	Income & Earnings 1965[b/]	Percent of Total Income 1965	Percent Growth 1965-1969	Absolute Growth 1965-1969
TOTAL PERSONAL INCOME	$2,761.2	100.0%	+ 7%	+$191.0	$2,042.1	100.0%	+35%	+$719.1
TOTAL EARNINGS	2,114.6	76.6%	+ 8%	+ 159.7	1,576.4	77.2%	+34%	+ 538.1
Farm	71.6	2.6%	+12%	+ 7.6	70.8	3.5%	+ 1%	+ 0.8
Mining	477.5	17.3%	+11%	+ 45.8	376.9	18.5%	+27%	+ 100.6
Manufacturing	396.4	14.4%	+ 8%	+ 28.7	287.0	14.1%	+38%	+ 109.4
Contract Construction	105.2	3.8%	+11%	+ 10.1	61.8	3.0%	+70%	+ 43.4
Transportation, Communications & Public Utilities	130.2	4.7%	+ 5%	+ 6.4	103.8	5.1%	+25%	+ 26.4
Wholesale & Retail Trade	280.0	10.1%	+ 5%	+ 14.5	222.0	10.9%	+26%	+ 58.0
Finance, Insurance & Real Estate	45.1	1.6%	+ 7%	+ 3.0	34.6	1.7%	+30%	+ 10.5
Services	219.3	7.9%	+ 8%	+ 16.4	147.1	7.2%	+49%	+ 72.2
Government	385.6	14.0%	+ 8%	+ 27.1	269.6	13.2%	+43%	+ 116.0
Other	3.6	0.1%	+ 5%	+ 0.2	2.8	0.1%	+31%	+ 0.9
TOTAL NON-EARNED INCOME	736.6	26.7%	+ 6%	+ 42.7	513.4	25.1%	+43%	+ 223.2
TRANSFER PAYMENTS	462.2	16.7%	+ 7%	+ 29.3	313.9	15.4%	+47%	+ 148.4

a/ Data Source: U. S. Department of Commerce, Bureau of Economic Analysis

b/ Data are not adjusted for residence. 1969 statistics are preliminary estimates and subject to change. Total earned and non-earned income will not sum to total personal income due to exclusion of Social Security payments from personal income.

June, 1972

TABLE IV-E

HIGHLANDS APPALACHIA PERSONAL INCOME AND EARNINGS BY MAJOR SOURCE[a/]
(Millions of Dollars)

	Recent Growth Performance				Summary Growth Performance			
	Income & Earnings 1969[b/]	Percent of Total Income 1969	Percent Growth 1968-1969	Absolute Growth 1968-1969	Income & Earnings 1965[b/]	Percent of Total Income 1965	Percent Growth 1965-1969	Absolute Growth 1965-1969
TOTAL PERSONAL INCOME	$5,199.9	100.0%	+ 9%	+$425.7	$3,683.9	100.0%	+41%	+$1,516.0
TOTAL EARNINGS	4,095.9	78.8%	+10%	+ 362.5	2,903.6	78.8%	+41%	+ 1,192.3
Farm	190.5	3.7%	+20%	+ 31.2	150.7	4.1%	+26%	+ 39.8
Mining	48.2	0.9%	+12%	+ 5.0	43.7	1.2%	+10%	+ 4.6
Manufacturing	1,618.9	31.1%	+10%	+ 144.5	1,138.4	30.9%	+42%	+ 480.4
Contract Construction	201.3	3.9%	+ 6%	+ 12.2	124.7	3.4%	+61%	+ 76.6
Transportation, Communications & Public Utilities	219.0	4.2%	+13%	+ 25.6	162.2	4.4%	+35%	+ 56.8
Wholesale & Retail Trade	522.1	10.0%	+ 8%	+ 36.5	405.3	11.0%	+29%	+ 116.6
Finance, Insurance & Real Estate	89.3	1.7%	+11%	+ 8.7	62.5	1.7%	+43%	+ 26.8
Services	473.1	9.1%	+ 8%	+ 33.7	324.9	8.8%	+46%	+ 148.2
Government	719.2	13.8%	+10%	+ 64.0	479.8	13.0%	+50%	+ 239.5
Other	14.2	0.3%	+ 8%	+ 1.1	11.4	0.3%	+24%	+ 2.8
TOTAL NON-EARNED INCOME	1,297.4	25.0%	+ 8%	+ 100.2	874.6	23.8%	+48%	+ 422.8
TRANSFER PAYMENTS	597.2	11.5%	+ 9%	+ 50.9	377.4	10.3%	+58%	+ 219.8

a/ Data Source: U. S. Department of Commerce, Bureau of Economic Analysis

b/ Data are not adjusted for residence. 1969 statistics are preliminary estimates and subject to change. Total earned and non-earned income will not sum to total personal income due to exclusion of Social Security payments from personal income.

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TABLE IV-F

NORTHERN APPALACHIA PERSONAL INCOME AND EARNINGS BY MAJOR SOURCE[a/]
(Millions of Dollars)

	Recent Growth Performance				Summary Growth Performance			
	Income & Earnings 1969[b/]	Percent of Total Income 1969	Percent Growth 1968-1969	Absolute Growth 1968-1969	Income & Earnings 1965[b/]	Percent of Total Income 1965	Percent Growth 1965-1969	Absolute Growth 1965-1969
TOTAL PERSONAL INCOME	$28,567.4	100.0%	+ 7%	+$1,906.1%	$21,592.8	100.0%	+32%	+$6,974.6
TOTAL EARNINGS	22,575.2	79.0%	+ 8%	+ 1,665.9	17,141.5	79.4%	+32%	+ 5,433.7
Farm	310.8	1.1%	+14%	+ 38.5	284.8	1.3%	+ 9%	+ 25.9
Mining	645.8	2.3%	+13%	+ 75.8	553.9	2.6%	+17%	+ 91.9
Manufacturing	8,518.6	29.8%	+ 6%	+ 519.5	6,823.1	31.6%	+25%	+ 1,695.5
Contract Construction	1,463.9	5.1%	+11%	+ 139.7	951.6	4.4%	+54%	+ 512.3
Transportation, Communications & Public Utilities	1,728.6	6.1%	+ 9%	+ 137.8	1,378.1	6.4%	+25%	+ 350.5
Wholesale & Retail Trade	3,300.2	11.6%	+ 7%	+ 230.1	2,589.3	12.0%	+27%	+ 710.9
Finance, Insurance & Real Estate	732.3	2.6%	+ 6%	+ 42.5	552.9	2.6%	+32%	+ 179.4
Services	2,873.1	10.1%	+ 8%	+ 224.2	1,993.0	9.2%	+44%	+ 880.1
Government	2,958.7	10.4%	+ 9%	+ 254.5	1,982.4	9.2%	+49%	+ 976.2
Other	43.3	0.2%	+ 8%	+ 3.2	32.4	0.2%	+34%	+ 11.0
TOTAL NON-EARNED INCOME	7,120.5	24.9%	+ 7%	+ 472.4	5,000.7	23.2%	+42%	+ 2,119.8
TRANSFER PAYMENTS	3,055.8	10.7%	+ 9%	+ 241.2	2,002.7	9.3%	+53%	+ 1,053.1

a/ Data Source: U. S. Department of Commerce, Bureau of Economic Analysis

b/ Data are not adjusted for residence. 1969 statistics are preliminary estimates and subject to change. Total earned and non-earned income will not sum to total personal income due to exclusion of Social Security payments from personal income.

June, 1972

Poverty and Poverty Trends in the Appalachian Region

Between 1960 and 1970, the total population in the Appalachian Region living in poverty 49/ declined from 5.4 million people (31% of the Region's population) to 3.2 million people (18%). The national decline in poverty population was from 22% to just under 14% of the U. S. population. Since the poverty decline was somewhat more rapid in Appalachia than in the nation, the index of poverty incidence in the Region (the percent of persons below the poverty level divided by the percent of persons below the poverty level in the nation) fell from 141 in 1960 to 132 in 1970.

The incidence of poverty was twice the Region's average in Central Appalachia, where over 36% of the 1970 population was classified below the poverty level. In the other subregions, the proportion of population in poverty was 21% in Southern Appalachia, 18% in Highlands Appalachia, and 13% in Northern Appalachia.

Generally, the poverty situation in Appalachia improved at a more rapid rate than in the nation over the 1960-1970 decade. In 1970, the proportion of the Region's population living in poverty was only 58% of its 1960 level, while in the nation it was 62% as high. However, the following Appalachian state areas lagged significantly behind the national rate of improvement and also maintained higher levels of poverty: C.A. Kentucky; C.A. West Virginia; and N.A. West Virginia. The Southern Appalachian areas of Georgia, Virginia and South Carolina showed the greatest gains, along with the Highlands portions of Georgia, North Carolina and South Carolina.

Among Appalachia's 397 counties, the number of counties better off than the nation (i.e., with lower incidence of poverty) increased from 45 in 1960 to 65 in 1970. Nearly two-thirds of these were in Northern Appalachia in 1970. At the opposite extreme, the high poverty counties (with incidence of poverty twice the national rate or higher) dropped from 188 counties in 1960 to 142 in 1970. These were concentrated in Central Appalachia, where 51 of the 60 counties fell into the high poverty group. Southern Appalachia had 46 of these counties, but they constituted only one-third of the total number of counties in this subregion. Only two high poverty counties (in southern Ohio) were located north of the Ohio River-Pennsylvania-Potomac River line in Appalachia in a zone which included 101 counties.

In general, Appalachian poverty is still concentrated in the rural counties and the more isolated and less accessible areas. The greatest gains appear to have taken place in regions of metropolitan and urban

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49/ As defined by Mollie Orshansky of the Social Security Administration in 1964 and modified in 1969 by a Federal Interagency Committee.

growth, and in areas linked to important and growing urban centers. The southern Piedmont and its bordering Appalachian Highland zones from Virginia to north Georgia have paced the Region in their rapid decrease in the incidence of poverty.

As indicated earlier, the changes experienced by each of the four Appalachian subregions over the past decade have been quite different.

Southern Appalachia

In Southern Appalachia, the incidence of poverty (percentage of population below the poverty line) was one-half again as high as the national average in 1970: 21%, contrasted with 14% for the nation. However, this represented a marked relative improvement over 1960 when poverty incidence in this subregion was 74% above the national mean. The number of counties with very high or extremely high indices of poverty (incidence more than twice the U. S. average) dropped from 76 in 1960 to 46 in 1970.

Within Southern Appalachia, the greatest relative improvement occurred in Georgia, Virginia and South Carolina. There was virtually no relative change in Kentucky, and in Mississippi the decrease in poverty was from 56% to 34% of total noninstitutional population, a rate of decline only slightly better than the nation, and behind the pace of the Appalachian Region as a whole. The high poverty area concentrations in 1970 remain in northeast Mississippi, central Alabama, south central Kentucky, and the southern Cumberlands of Tennessee (41 of the 46 counties with high poverty incidence in this subregion are located in these areas).

Though the reduction in poverty in Southern Appalachia paralleled the pattern experienced by the Highlands, the population involved is more than three times larger. By 1970, six counties in this subregion had attained poverty levels better than the nation (i.e., lower incidence); four of these were in north Georgia (two each in the Atlanta and Chattanooga orbits), one was in the North Carolina Piedmont, and one adjacent to Roanoke, in Virginia.

Central Appalachia

Central Appalachia remains the most concentrated zone of poverty within the Region. In 1970, although this subregion contained only 7.5% of the Region's population, it was the residence of 15.3% of all population below the poverty line in Appalachia. The incidence of poverty in Central Appalachia was 36% of total population. Furthermore, although the number of poor decreased from 1960 to 1970, the rate of decline in poverty was significantly less rapid here than in the nation.

In 1970, this subregion contained 40 of the 73 counties in Appalachia with an extremely high incidence of poverty (Index = 200-250). Areas of relative improvement in Central Appalachia were in the western Tennessee Cumberlands and along Interstate 40 there; in the Somerset area of Kentucky, in Pike County; in the West Virginia Turnpike corridor; and in the Clinch Valley of Virginia, along with Buchanan County. Eastern Kentucky, in contrast, remained the "hard core" of Central Appalachian poverty: 46% of its population was below the poverty line in 1970.

Highlands Appalachia

In the Highlands, the incidence of poverty in 1970 was 18% or about the same as in the Appalachian Region generally, and one-third higher than the national level. The Highlands form an elongated subregion, with marked differences within the area reflecting to a considerable extent the economic character of the borderlands in other subregions. Thus, the level of poverty incidence in the northern Highlands (New York and Pennsylvania) was only 13% of its population, while the central area in Maryland, Virginia and West Virginia had much higher levels of poverty, 25% or nearly twice the incidence in the North. The southern Highlands had an average poverty incidence of 22% of 1970 noninstitutional population.

Between 1960 and 1970, the incidence of poverty in the Highlands dropped from 33% to 18%; from one-third to less than one-fifth of its people. The greatest improvement by far was in the southern Highlands (the two Carolinas and Georgia), followed by the Virginia and Tennessee Highlands. Very little relative improvement was shown in the central Highlands of Maryland and West Virginia (i.e., proverty declined at about the national rate and, therefore, less rapidly than in the Region as a whole), as was also true in New York State's two Highland counties. In Highland Pennsylvania, the most populous segment of the Highlands, the poverty population dropped from 23% to 13% of the total over the 1960-1970 period, thereby moving from slightly worse than the national average to slightly better.

The counties remaining with high poverty levels are concentrated in the southern Blue Ridge in North Carolina, Tennessee and Georgia, and in the West Virginia Highlands, with one neighboring county in Virginia.

Northern Appalachia

Poverty incidence in Northern Appalachia is just slightly less than in the nation (13.4% of 1970 noninstitutional population vs. 13.7%). In addition, the reduction in poverty from 22% in 1960 paralleled the change in the nation. However, the average statistic is misleading; the counties of Northern Appalachia run the full gamut from Hancock County, West Virginia where the proportion of poor is only 55% of the national level, to nine counties in West Virginia and Kentucky where poverty incidence is over two and one-half times the national level.

In Northern Appalachia, 42 of the 123 counties -- just over one-third -- are better than the average U. S. level in poverty (i.e., have a smaller proportion of people below the poverty line), while at the opposite extreme, 27 counties are high poverty areas. These high poverty areas are entirely located in south central, central, and east central West Virginia (17 counties), northeastern Kentucky (eight counties), and southern Ohio (two counties).

Northern Appalachia lagged behind the Region as a whole in the reduction of poverty over the 1960s, though the subregion has kept up with the nation. However, in two state areas, New York and West Virginia, the reduction of poverty incidence has been less than the national average, and only in northeastern Kentucky has the decline in poverty (from 43% to 25% of population) in the 1960-1970 period equaled the relative reduction in poverty for the Region as a whole.

Generally speaking, in Northern Appalachia, the more rural and more isolated (mountain or hill country) counties tend to have significantly higher poverty levels than the counties in or adjacent to metropolitan areas and the larger urban centers in nonmetropolitan areas.

TABLE IV-G

POPULATION BELOW POVERTY LINE, AND INCIDENCE OF POVERTY, 1970 AND 1960, APPALACHIAN REGION, SHOWING POVERTY TRENDS COMPARED WITH UNITED STATES AVERAGE.

	1970 POPULATION (000) Total Non-Inst.	1970 POPULATION (000) Below Poverty Level	1960 POPULATION (000) Total Non-Inst.	1960 POPULATION (000) Below Poverty Level	Percentage Of Pop'ln. in Poverty (1970)	(1960)	Relative Poverty Incidence (1970)	Change in Poverty Incidence Relative to U. S. (1960-1970)**
UNITED STATES	198,060.	27,125.	175,035.	38,685.	13.7%	22.1%	62%	0
APPALACHIA	17,823.9	3,228.4	17,468.2	5,446.6	18.1%	31.2%	58%	- 3.9
Southern Appalachia	5,934.5	1,233.4	5,455.7	2,103.3	20.8%	38.6%	54%	- 8.1
S. A. Alabama	2,096.3	463.3	1,966.3	762.3	22.1%	38.8%	57%	- 5.0
S. A. Georgia	740.6	120.8	613.7	229.4	16.3%	37.4%	44%	-18.3
S. A. Kentucky	148.7	49.7	148.3	80.5	33.4%	54.3%	62%	- 0.4
S. A. Mississippi	410.6	138.6	403.4	225.9	33.8%	56.0%	60%	- 1.7
S. A. North Carolina	666.2	116.4	600.8	200.2	17.5%	33.3%	52%	- 9.6
S. A. South Carolina	601.0	97.0	537.6	180.5	16.1%	33.6%	48%	-13.9
S. A. Tennessee	1,064.2	207.7	980.5	340.2	19.5%	34.7%	56%	- 5.7
S. A. Virginia	207.0	40.0	205.2	84.2	19.3%	41.0%	47%	-14.9
Central Appalachia	1,361.4	495.3	1,533.5	847.3	36.4%	55.3%	66%	+ 3.9
C. A. Kentucky	502.5	232.3	567.8	368.8	46.2%	65.0%	71%	+ 9.2
C. A. Tennessee	300.1	96.3	296.3	160.8	32.1%	54.3%	59%	- 2.8
C. A. Virginia	196.0	61.4	229.3	121.6	31.3%	53.0%	59%	- 2.9
C. A. West Virginia	362.9	105.3	440.1	196.1	29.0%	44.6%	65%	+ 3.2

**The incidence of poverty (proportion of persons below poverty level) in the United States in 1970 was 62.0 percent of its 1960 incidence. Therefore, in an area with a 1970 relative incidence of 55.0 percent, the change in poverty incidence was -7.0 percentage points; i.e. the level of poverty in that area fell 7 percentage points faster than in the Nation. A positive (+) change indicates that poverty incidence in an area fell less rapidly than in the Nation, and therefore, in relative terms, increased.

TABLE IV-G (continued)

POPULATION BELOW POVERTY LINE, AND INCIDENCE OF POVERTY, 1970 AND 1960, APPALACHIAN REGION, SHOWING POVERTY TRENDS COMPARED WITH UNITED STATES AVERAGE.

	1970 POPULATION (000) Total Non-Inst.	1970 POPULATION (000) Below Poverty Level	1960 POPULATION (000) Total Non-Inst.	1960 POPULATION (000) Below Poverty Level	Percentage of Pop'ln. in Poverty (1970)	Percentage of Pop'ln. in Poverty (1960)	Relative Poverty Incidence (1970)	Change in Poverty Incidence Relative to U. S. (1960-1970)**
Highlands Appalachia	1,932.0	344.1	1,837.2	609.0	17.8%	33.1%	54%	- 8.2
H. A. Georgia	61.7	15.2	59.3	29.4	24.6%	49.5%	50%	-12.3
H. A. North Carolina	349.0	74.1	319.4	141.8	21.2%	44.4%	48%	-14.1
H. A. South Carolina	40.4	7.0	38.4	15.5	17.4%	40.3%	43%	-18.9
H. A. Tennessee	336.4	77.1	310.1	131.5	22.9%	42.4%	54%	- 7.9
H. A. Maryland	21.2	5.6	19.9	8.6	26.5%	43.4%	61%	- 1.0
H. A. Virginia	60.7	11.9	63.4	23.4	19.6%	36.9%	53%	- 9.0
H. A. West Virginia	78.3	22.2	85.6	39.8	28.4%	46.5%	61%	- 0.9
H. A. New York	94.5	13.4	92.5	21.3	14.2%	23.1%	62%	- 0.4
H. A. Pennsylvania	889.9	117.6	848.7	197.7	13.2%	23.3%	57%	- 5.2
Northern Appalachia	8,596.0	1,155.7	8,641.7	1,887.1	13.4%	21.8%	62%	- 0.4
N. A. Kentucky	210.0	52.4	202.1	86.8	24.9%	42.9%	58%	- 3.9
N. A. Maryland	182.5	24.6	172.9	39.3	13.5%	22.7%	59%	- 2.6
N. A. New York	924.2	103.5	875.5	143.8	11.2%	16.4%	68%	+ 6.2
N. A. Ohio	1,101.4	176.4	1,099.7	287.1	16.0%	26.1%	61%	- 0.6
N. A. Pennsylvania	4,910.2	546.3	4,978.2	929.2	11.1%	18.7%	60%	- 2.4
N. A. West Virginia	1,267.8	252.6	1,313.3	400.9	19.9%	30.5%	65%	+ 3.3

**The incidence of poverty (proportion of persons below poverty level) in the United States in 1970 was 62.0 percent of its 1960 incidence. Therefore, in an area with a 1970 relative incidence of 55.0 percent, the change in poverty incidence was -7.0 percentage points; i.e., the level of poverty in that area fell 7 percentage points faster than in the Nation. A positive (+) change indicates that poverty incidence in an area fell less rapidly than in the Nation, and therefore, in relative terms, increased.

TABLE IV-H

INCIDENCE OF POVERTY, BY COUNTY, APPALACHIAN REGION, 1970 and 1960

Poverty Incidence	(U.S. = 100) (Index)	Counties 1970	1960	Change
Very Low	(Under 50)	0	1	- 1
Low	(50-75)	16	15	+ 1
Below Average	(75-100)	49	29	+20
SUBTOTAL, Poverty Below U. S. Level	(Under 100)	75	45	+20
Above Average	(100-125)	49	39	+10
Moderately High	(125-150)	56	33	+23
High	(150-200)	85	92	- 7
Very High	(200-250)	69	89	-20
Extremely High*	(250 and over)	73*	99	-26
SUBTOTAL, Poverty Above U. S. Level	(100 and over)	332	352	-20

*In 1970, 14 counties, all in Central Appalachia, still had over 50% of their population below the poverty level (1969 income).

TABLE IV-I

DISTRIBUTION OF COUNTIES BY POVERTY INCIDENCE, APPALACHIAN REGION, 1970

	INDEX OF POVERTY INCIDENCE (U.S. Average= 100)			1970 NUMBER OF COUNTIES							
	1970	1960	Change	TOTAL	LOW Index 50-75	BELOW AVG. Index 75-100	ABOVE AVG. Index 100-125	MOD. HIGH Index 125-150	HIGH Index 150-200	VERY HIGH Index 200-250	EXTR. HIGH Index 250+
APPALACHIA	132	141	- 8.8	397	16	49	49	56	85	69	73
Southern Appalachia	152	174	-22.7	143	--	6	19	27	45	23	23
S. A. Alabama	161	175	-14.0	35	--	--	1	3	20	8	3
S. A. Georgia	119	169	-50.1	29	--	4	7	11	6	1	--
S. A. Kentucky	244	246	- 1.6	11	--	--	--	--	3	1	7
S. A. Mississippi	246	253	- 7.0	20	--	--	--	--	4	5	11
S. A. North Carolina	128	151	-23.2	13	--	1	4	4	2	2	--
S. A. South Carolina	118	152	-34.1	5	--	--	3	2	--	--	--
S. A. Tennessee	143	157	-14.5	22	--	--	3	4	7	6	2
S. A. Virginia	141	186	-44.7	8	--	1	1	3	3	--	--
Central Appalachia	266	250	+15.6	60	--	--	--	1	8	11	40
C. A. Kentucky	338	294	+43.6	26	--	--	--	--	--	1	25
C. A. Tennessee	234	246	-11.2	18	--	--	--	1	4	3	10
C. A. Virginia	229	240	-11.3	7	--	--	--	--	1	4	2
C. A. West Virginia	212	202	+10.3	9	--	--	--	--	3	3	3

TABLE IV-I (continued)

DISTRIBUTION OF COUNTIES BY POVERTY INCIDENCE, APPALACHIAN REGION, 1970

	INDEX OF POVERTY INCIDENCE (U.S. Average 100)			1970 NUMBER OF COUNTIES							
	1970	1960	Change	TOTAL	LOW Index 50-75	BELOW AVG. Index 75-100	ABOVE AVG. Index 100-125	MOD. HIGH Index 125-150	HIGH Index 150-200	VERY HIGH Index 200-250	EXTR. HIGH Index 250+
Highlands Appalachia	130	150	-19.9	71	5	12	11	9	16	17	1
H. A. Georgia	180	224	-44.5	6	--	--	--	1	2	2	1
H. A. North Carolina	155	201	-45.8	16	--	1	3	1	4	7	--
H. A. South Carolina	127	182	-55.3	1	--	--	--	1	--	--	--
H. A. Tennessee	167	192	-24.6	10	--	--	1	--	6	3	--
H. A. Maryland	193	196	- 3.3	1	--	--	--	--	1	--	--
H. A. Virginia	143	167	-24.2	6	--	--	1	2	2	1	--
H. A. West Virginia	207	210	- 2.9	5	--	--	--	--	1	4	--
H. A. New York	104	104	- 0.6	2	--	1	1	--	--	--	--
H. A. Pennsylvania	96	105	- 8.9	24	5	10	5	4	--	--	--
Northern Appalachia	98	99	- 0.6	123	11	31	19	19	16	18	9
N. A. Kentucky	182	194	-12.1	12	--	--	1	2	1	5	3
N. A. Maryland	98	103	- 4.4	2	--	1	1	--	--	--	--
N. A. New York	82	74	+ 7.5	12	2	10	--	--	--	--	--
N. A. Ohio	117	118	- 1.2	28	1	5	5	10	5	2	--
N. A. Pennsylvania	81	84	- 3.2	28	7	12	7	--	2	--	--
N. A. West Virginia	145	138	+ 7.3	41	1	3	5	7	8	11	6

V. MOBILITY OF THE APPALACHIAN WORK FORCE

Population migration flows are, to a large extent, determined by the movement of the work force. Although the quest for jobs, higher pay, and better working conditions is not the only factor motivating the movement of people from one geographic area to another, it is the most significant.

The Social Security continuous work history sample, 50/ on which the following analysis is based, provides data on the characteristics and movement of the work force within a given region. Specifically, the sample indicates the sex and age of those who remain and those who migrate to or from that region between any two given years. In addition, the sample also provides the industry of employment, the mean wage, and the origin and destination of the migrants.

It must be emphasized that the civilian work force and employment totals appearing in this analysis and in the accompanying tables are estimates based on a 1% sample of Social Security records which cover approximately 90% of the total work force. This data is therefore not directly comparable to: the work force and employment data used in the analysis of employment (section III), which represents a total count; the major industrial group employment (section III), which includes all major industrial group employment covered by Social Security; or the migration data for the total population obtained from the national census. Sample coverage includes nonfarm industries, certain farm workers, regular domestic workers and civilian federal employment not covered by the federal retirement system. It also includes (on an elective basis) ministers, employees of nonprofit institutions, and state and local government workers. It does not include railroad workers or the self-employed. Military personnel were deleted from the sample used in this discussion.

50/ Source: Bureau of Economic Analysis, U. S. Department of Commerce.

The analysis of Appalachian civilian work force mobility focuses on two five-year periods: 1960-1965 and 1965-1970. In order to analyze the movements of a constant group of workers, the sample selected was confined to those in covered employment in both 1960 and 1965 for the first five-year period, and those in covered employment in both 1965 and 1970 for the second period. It is reasonable to assume that this narrow scope, although essential to make valid comparisons, missed large segments of the work force who were employed in only one of the two terminal years of each five-year period. This would include a significant number of Appalachian youths who first entered the covered work force outside Appalachia, and older workers who retired, entered non-covered employment, or died.

In most discussions of Appalachian migration, emphasis has been placed on the net outflow or loss of population which occurred over the past two decades. The gross migration patterns of people moving both into and out of the Region have in the past been ignored due to the lack of supportive data. The 1% Social Security sample for the first time provides a reasonable indication of this two-way migration flow and is the basis for the following discussion.

An indication of the gross outmigration of civilian workers during each of the two five-year periods is shown in Table V-A, page 115. Of those working in Appalachia during 1960 and in the covered work force in both 1960 and 1965, 83.6% or 2,626,300 remained employed in the same subregion, while 2.4% (74,200) migrated to jobs in the other subregions, and 14.0% (438,700) left the Region entirely to take advantage of employment opportunities in the non-Appalachian United States.

Table V-B (page 115) provides information on the movement of workers into the Appalachian Region. 51/ Of the 3,069,900 who worked in Appalachia during 1965 and who were in the covered work force in 1960, 2,626,300 or 85.6% stayed in the same subregion in which they were employed in 1960, 74,200 or 2.4% migrated from one subregion to another, and 369,400 or 12.0% in-migrated from non-Appalachian areas to take advantage of employment opportunities in the Region. The net result of the gross in-migration and outmigration which took place over the 1960-1965 period was a net loss or outmigration of 69,300 workers (see Table V-C, page 116).

Interesting changes occurred in the two-way migration flows over the period 1965-1970. Gross outmigration of covered workers increased by 55,400 to a level of 494,100, or 14.4% of all those employed in the

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51/ This information was obtained by examining the sample of workers employed in Appalachia during 1965 and determining their place of employment in 1960. For example, if they were employed outside the Region in 1960 but inside the Region in 1965, they were counted as in-migrants.

TABLE V-A
THE FOUR APPALACHIAS
GROSS OUT-MIGRATION OF COVERED WORKERS

	1960-65		1965-70	
	To other Appal. Subregions	To Non-Appal. U. S.	To other Appal. Subregions	To Non-Appal. U. S.
Southern	23,600	155,200	16,300	180,800
Central	11,000	25,500	13,400	28,700
Highlands	21,500	41,200	26,800	48,300
Northern	18,100	216,800	26,900	236,300
Appalachia, Total	74,200	438,700	83,400	494,100

TABLE V-B
THE FOUR APPALACHIAS
GROSS IN-MIGRATION OF COVERED WORKERS

	1960-65		1965-70	
	From other Appal. Subregions	From Non-Appal. U.S.	From other Appal. Subregions	From Non-Appal. U.S.
Southern	14,400	134,800	22,000	191,200
Central	17,200	12,100	12,600	20,200
Highlands	18,900	34,200	26,600	45,800
Northern	23,700	188,300	22,200	212,900
Appalachia, Total	74,200	369,400	83,400	470,100

Data Source: U. S. Department of Commerce, Bureau of Economic Analysis.

TABLE V-C
THE FOUR APPALACHIAS
NET MIGRATION OF COVERED WORKERS

	Net Migration Between Each Subregion and: 1960-65		1965-70	
	Another Appal. Subregion	Non-Appal. U. S.	Another Appal. Subregion	Non-Appal. U. S.
Southern	-9,200	-20,400	+5,700	+10,400
Central	+6,200	-13,400	- 800	- 8,500
Highlands	-2,600	- 7,500	- 200	- 2,500
Northern	+5,600	-28,000	-4,700	-23,400
Appalachia, Total	0	-69,300	0	-24,000

Data Source: U. S. Department of Commerce, Bureau of Economic Analysis.

Region in 1965 and employed in 1970. At the same time, the gross in-migration of workers also rose, increasing by over 100,000 to a total of 470,100 workers (13.8% of those civilians employed in Appalachia during 1970 and employed during 1965). On a net basis, the Region lost 24,000 workers from 1965 to 1970. Approximately 2,847,700 (83.2% of the 1965 covered work force) were employed in the same subregion in both years, and 83,400 (2.4%) moved to another Appalachian subregion.

Based on this information, some tentative conclusions about the mobility of Appalachia's civilian work force may be drawn. Both gross in-migration and gross outmigration increased in 1965-1970 compared to 1960-1965. However, gross in-migration increased more in absolute terms, with the result that the net outmigration of workers appears to have slackened considerably in 1965-1970.

An examination of trends of each of the four Appalachian subregions reveals significant differences (see Tables V-A, V-B and V-C, pages 115 and 116). Southern Appalachia produced the most dramatic change over the two five-year periods. From 1960 to 1965, approximately 858,000 workers (82.7%) who were employed in Southern Appalachia in 1960 and employed in 1965, remained in this subregion. This was the second highest retention rate of any of the four Appalachias. Over the same period, this subregion experienced a net outmigration of -9,200 workers who left to take employment in another subregion, and -20,400 who left the Region entirely. Thus, the net loss of workers from Southern Appalachia was greater in absolute terms than from any other subregion (-29,600 workers). However, from 1965 to 1970 this situation was reversed. Southern Appalachia produced a net in-migration of workers both from other subregions (+5,700 workers) and from the non-Appalachian United States (+10,400) for a net inflow of +16,100 workers. This was the only subregion to experience a net inflow of workers from 1965 to 1970. Finally, approximately 978,800 workers were employed in Southern Appalachia in both 1965 and 1970, for a retention rate of 83.2%.

Central Appalachia produced an interesting shift in the migration pattern of covered workers over the 1960s. While the net outmigration of workers from Central Appalachia to jobs outside the Region fell from -13,400 in 1960-1965 to -8,500 in 1965-1970, a reversal occurred in the net exchange of workers with other subregions. In the 1960-1965 period, Central Appalachia experienced a net inflow of workers (+6,200) from the rest of Appalachia. During the subsequent five-year period, however, there was a small net outflow of workers to the other subregions (-800). Central Appalachia's total net outmigration, both to the rest of Appalachia and to non-Appalachian areas, therefore increased from -7,200 in 1960-1965 to -9,300 workers in 1965-1970. Finally, of the four Appalachias, Central Appalachia retained the smallest percentage of both its 1960 and 1965 work force (74.7% and 74.4%, respectively).

The Highlands produced the second smallest net outmigration of workers in both periods of analysis. From 1960 to 1965, the net outflow of workers to areas outside the Region was -2,600, while 7,500 workers left, on balance, for jobs in other subregions. Thus, total net outmigration from the Highlands in the earlier period was -10,100 workers. The retention rate of this subregion was 79.0% (235,200 workers). During the second period, total net outmigration declined fairly significantly to -2,700 workers, as the net outflow of workers to other Appalachian areas declined to only -200 and the net movement of workers to non-Appalachian areas fell to -2,500. Approximately 263,700 or 77.8% of those employed in the Highlands in 1965 and employed in 1970 remained. Thus, the Highlands produced the second lowest retention rate for this period of the four Appalachias.

Finally, Northern Appalachia experienced an increase in the net outmigration of workers in 1965-1970 compared to 1960-1965. In the earlier period, a net inflow of workers from other subregions (+5,600) was more than offset by a net outflow to the non-Appalachian United States of -28,000 workers. In 1965-1970, even though the net loss of workers to areas outside the Region fell to -23,400, total outmigration from Northern Appalachia increased to -28,100 workers. This was a result of the reversal of the net migration flow to other subregions, which shifted from a net inflow to a net loss of -4,700 workers in 1965-1970. Northern Appalachia, however, retained a higher share of both its 1960 and 1965 covered work force than any other subregion.

The 1965-1970 period was examined in greater detail in order to provide information concerning the characteristics of the migrating workers. For the Region as a whole, working women were somewhat less mobile than men. From 1965 to 1970, only 13.8% of all women employed in the Region in 1965 and employed in 1970 moved to jobs in another subregion or outside the Region entirely, compared to 18.3% of all covered male workers. Central Appalachia 52/ was the only subregion where the outward mobility of women was greater than that of men (see Table V-D, page 120). The migration of men into the Appalachian Region was also greater than that of women over this period (see Table V-F, page 122).

In general, young workers (under 30) tend to be more mobile than older workers. They are often less committed to residence in a given location, and are more likely to be able to find jobs in new areas due to their youth, more up-to-date skills and training, etc. This phenomenon was evident in Appalachia in 1965-1970 (see Table V-E, page 121). Only 69.6% of workers in the sample who were under 30 in 1970 remained

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52/ Since the sample size for Central Appalachia and the Highlands is relatively small when separated into male/female and age categories, these estimates must be interpreted with caution.

employed in the same Appalachian subregion from 1965 to 1970. The retention rate of workers over 30 for the same period was approximately 87.1%. The generally greater mobility of men than women also characterizes the younger work force.

The structure of employment and wages in a given area also exert an important influence on patterns of migration. Although Table V-G, page 123, covers only outmigration by sector of employment in 1965-1970 and mean wage for 1965-1970, it illustrates the effect of these factors.

Mining, the highest paid employment sector, demonstrated a relatively high rate of labor retention in every subregion but the Highlands. This phenomenon was undoubtedly related to the location of substantial coal reserves in Appalachia as well as to the relatively high wage. Outmigrating miners tended to earn less than those who remained, although the mean wage of the latter group increased over the subsequent five years at a greater rate.

The most mobile sector throughout Appalachia was contract construction. The wage level of this sector, although relatively low, may not contribute to the mobility of its workers as much as the geographic dispersal of construction employment, the volatility of construction in general, and conditions in local construction labor markets.

Manufacturing was a relatively stable sector, with a high rate of worker retention throughout the Region. Again, Central Appalachia was the exception: 9.3% of those working in manufacturing in 1965 moved to jobs in other Appalachian subregions, and 22.2% migrated to areas outside Appalachia.

The trade and service sectors had a relatively high rate of outmigration in all subregions. The exceedingly high rate of wage increase of the migrants was at least partly a reflection of their low level of earnings in 1965.

TABLE V-D
THE FOUR APPALACHIAS
OUTWARD MOBILITY OF COVERED CIVILIAN EMPLOYMENT*, BY SEX, 1965-1970

	Working in Region (Subregion) in 1965 (thousands) (1)	Working in Region (Subregion) in 1965 & working in 1970 (thousands) (2)	Working in the same Appalachian Subregion in 1970 (thousands) (3)	(% of Col. 2)	Working in another Appalachian Subregion in 1970 (thousands) (4)	(% of Col. 2)	Working outside Appalachia in 1970 (thousands) (5)	(% of Col. 2)
APPALACHIA, Total	4511.2	3425.2	2847.7	83.2%	83.4	2.4%	494.1	14.4%
Males	2915.2	2331.7	1904.9	81.7%	62.3	2.7%	364.5	15.6%
Females	1596.0	1093.5	942.8	86.2%	21.1	1.9%	129.6	11.9%
SOUTHERN APPALACHIA, Total	1540.3	1175.9	978.8	83.2%	16.3	1.4%	180.8	15.4%
Males	967.8	775.2	629.7	81.2%	12.0	1.6%	133.5	17.2%
Females	572.5	400.7	349.1	87.1%	4.3	1.1%	47.3	11.8%
CENTRAL APPALACHIA, Total	219.5	164.3	122.2	74.4%	13.4	8.1%	28.7	17.5%
Males	146.6	114.3	85.8	75.1%	10.0	8.7%	18.5	16.2%
Females	72.9	50.0	36.4	72.8%	3.4	6.8%	10.2	20.4%
HIGHLANDS APPALACHIA, Total	447.8	338.8	263.7	77.8%	26.8	7.9%	48.3	14.3%
Males	274.5	218.5	166.2	76.1%	19.3	8.8%	33.0	15.1%
Females	173.3	120.3	97.5	81.1%	7.5	6.2%	15.3	12.7%
NORTHERN APPALACHIA, Total	2303.6	1746.2	1483.0	84.9%	26.9	1.6%	236.3	13.5%
Males	1526.3	1223.7	1023.2	83.6%	21.0	1.7%	179.5	14.7%
Females	777.3	522.5	459.8	88.0%	5.9	1.1%	56.8	10.9%

*Data Source: U. S. Department of Commerce, Bureau of Economic Analysis. Covered employment includes all civilian nonfarm industries, certain farm workers, regular domestic workers, civilian Federal employees not covered by the Federal Retirement System. It also includes, on an elective basis, ministers, employees of nonprofit institutions, and state and local government workers. It does not include railroad workers.

TABLE V-E

THE FOUR APPALACHIAS

OUTWARD MOBILITY OF COVERED CIVILIAN EMPLOYMENT* UNDER 30, BY SEX, 1965-1970

	Working in Region (Subregion) in 1965 (thousands)	Working in Region (Subregion) in 1965 & working in 1970 (thousands)	Working in the same Appalachian Subregion in 1970 (thousands)	(% of Col. 2)	Working in another Appalachian Subregion in 1970 (thousands)	(% of Col. 2)	Working outside Appalachia in 1970 (thousands)	(% of Col. 2)
APPALACHIA								
Males -Under 30 years (in 1970)	449.2	355.3	244.8	68.9%	15.2	4.3%	95.3	26.8%
Females-Under 30 years (in 1970)	315.9	174.3	123.7	71.0%	6.5	3.7%	44.0	25.2%
SOUTHERN APPALACHIA								
Males -Under 30 years (in 1970)	180.5	143.4	101.9	71.1%	3.5	2.4%	38.0	26.5%
Females-Under 30 years (in 1970)	117.5	69.9	53.0	75.8%	1.1	1.6%	15.7	22.5%
CENTRAL APPALACHIA								
Males -Under 30 years (in 1970)	21.4	16.2	8.1	50.0%	2.2	13.6%	5.9	36.4%
Females-Under 30 years (in 1970)	15.1	8.6	4.2	48.8%	1.0	11.6%	3.4	39.6%
HIGHLANDS APPALACHIA								
Males -Under 30 years (in 1970)	46.1	35.5	20.5	57.8%	5.4	15.2%	9.6	27.0%
Females-Under 30 years (in 1970)	37.0	22.0	14.2	64.5%	2.6	11.8%	5.2	23.6%
NORTHERN APPALACHIA								
Males -Under 30 years (in 1970)	202.2	160.2	114.3	71.3%	4.1	2.6%	41.8	26.1%
Females-Under 30 years (in 1970)	146.6	73.8	52.3	69.5%	1.8	2.4%	19.7	26.7%

*Data Source: U. S. Department of Commerce, Bureau of Economic Analysis. Covered employment includes all civilian nonfarm industries, certain farm workers, regular domestic workers, civilian Federal employees not covered by the Federal Retirement System. It also includes, on an elective basis, ministers, employees of nonprofit institutions, and state and local government workers. It does not include railroad workers.

TABLE V-F
THE FOUR APPALACHIAS
INWARD MOBILITY OF COVERED CIVILIAN EMPLOYMENT*, BY SEX, 1965-1970

	Working in Region (Subregion) in 1970 (thousands) (1)	Working in Region (Subregion) in 1970 & working in 1965 (thousands) (2)	Working in the same Appalachian Subregion in 1965 (thousands) (3)	(% of Col. 2)	Working in another Appalachian Subregion in 1965 (thousands) (4)	(% of Col. 2)	Working outside Appalachia in 1965 (thousands) (5)	(% of Col. 2)
APPALACHIA, Total	5215.2	3401.2	2847.7	83.7%	83.4	2.5%	470.1	13.8%
Males	3233.7	2316.8	1904.9	82.2%	62.3	2.7%	349.6	15.1%
Females	1981.5	1083.4	942.8	87.0%	21.1	2.0%	120.5	11.1%
SOUTHERN APPALACHIA, Total	1854.5	1192.0	978.8	82.1%	22.0	1.9%	191.2	16.0%
Males	1122.8	782.6	629.7	80.5%	15.8	2.0%	137.1	17.5%
Females	731.7	409.4	350.1	85.5%	6.2	1.5%	54.1	13.2
CENTRAL APPALACHIA, Total	256.3	155.0	122.2	77.8%	12.6	8.1%	20.2	13.0%
Males	168.1	110.7	85.8	77.5%	9.6	8.7%	15.3	13.8%
Females	88.2	44.3	36.4	82.2%	3.0	6.8%	4.9	11.1%
HIGHLANDS APPALACHIA, Total	529.4	336.1	263.7	78.5%	26.6	7.9%	45.8	13.5%
Males	306.5	216.8	166.2	76.7%	19.7	9.1%	30.9	14.2%
Females	222.9	119.3	97.5	81.7%	7.9	6.6%	14.9	12.4%
NORTHERN APPALACHIA, Total	2575.0	1718.1	1483.0	86.3%	22.2	1.3%	212.9	12.4%
Males	1636.3	1206.7	1023.2	84.8%	17.2	1.4%	166.3	13.8%
Females	938.7	511.4	459.8	89.9%	5.0	1.0%	46.6	9.1%

*Data Source: U. S. Department of Commerce, Bureau of Economic Analysis. Covered employment includes all civilian nonfarm industries, certain farm workers, regular domestic workers, civilian Federal employees not covered by the Federal Retirement System. It also includes, on an elective basis, ministers, employees of nonprofit institutions, and state and local government workers. It does not include railroad workers.

TABLE V-G
THE FOUR APPALACHIAS
OUTWARD MOBILITY AND WAGE TRENDS OF COVERED CIVILIAN EMPLOYMENT* BY SELECTED INDUSTRIAL SECTORS, 1965-1970

	WORKING IN REGION (Subregion) in 1965 & working in 1970 (thousands)	WORKING IN SAME SUBREGION IN 1970 Percent of Column 1	MEAN WAGES			WORKING IN ANOTHER APPAL. SUBRN. IN 1970 Percent of Column 1	MEAN WAGES			WORKING OUTSIDE APPALACHIA IN 1970 Percent of Column 1	MEAN WAGES		
			1965	1970	Change		1965	1970	Change		1965	1970	Change
		%	$	$	%	%	$	$	%	%	$	$	%
	(1)	(2)		(3)		(4)		(5)		(6)		(7)	
SOUTHERN APPALACHIA													
Mining	12.2	80.3	5120	7239	41.4	4.1	3795	7836	106.5	15.6	4058	6246	53.9
Contract Construction	69.4	71.0	4270	6513	52.5	1.6	3481	3901	12.1	27.4	3948	6135	55.4
Manufacturing	543.0	85.6	4432	6119	38.1	1.4	4350	6192	42.4	13.0	4161	6592	58.4
Trade	209.8	80.8	3558	5866	64.9	1.6	2037	5140	152.4	17.6	3228	6225	92.8
Fin., Ins. & Real Est.	45.3	78.8	4859	7018	44.4	1.1	5418	9351	72.6	20.1	4519	6564	45.3
Service & Misc.	183.6	83.6	3588	5701	58.9	1.3	3310	6625	100.1	15.1	3129	6408	104.8
CENTRAL APPALACHIA													
Mining	37.7	83.6	5529	8224	48.7	7.4	5242	6931	32.2	9.0	4762	8204	72.3
Contract Construction	4.9	59.2	2375	4865	104.8	6.1	6136	9271	51.1	34.7	3477	6609	90.1
Manufacturing	39.7	68.5	5054	6855	35.6	9.3	3276	5176	58.8	22.2	3119	5151	65.2
Trade	33.8	68.3	3222	5376	66.9	8.9	2114	6029	185.2	22.8	2270	5416	138.6
Fin., Ins. & Real Est.	4.0	80.0	4525	7309	61.5	5.0	3668	7786	112.3	15.0	3673	6311	71.8
Service & Misc.	33.5	80.3	3848	6070	57.7	7.2	4066	7242	78.1	12.5	2541	6438	153.3
HIGHLANDS APPALACHIA													
Mining	4.4	65.9	5314	7588	42.8	22.7	5506	7536	36.9	11.4	3878	7517	93.8
Contract Construction	12.4	66.9	3772	6384	69.3	8.1	3982	8305	108.5	25.0	4231	7871	86.0
Manufacturing	172.3	81.7	4520	6269	38.7	6.4	3543	5632	59.0	11.9	4389	7148	62.9
Trade	55.1	74.2	3217	5160	60.4	9.3	2729	5488	101.1	16.5	2465	6345	157.4
Fin., Ins. & Real Est.	7.6	75.0	4895	7443	52.0	6.6	2659	4702	76.8	18.4	3730	6363	70.6
Service & Misc.	66.8	76.8	3748	6151	64.1	7.3	2663	6445	142.1	15.9	3122	7631	144.4
NORTHERN APPALACHIA													
Mining	57.8	86.7	6279	8843	40.8	4.5	6876	10,113	47.1	8.8	4869	8059	65.5
Contract Construction	71.5	77.6	5452	8920	63.6	3.4	4889	6779	38.7	19.0	5179	8906	72.0
Manufacturing	782.6	86.1	5931	7938	33.8	1.3	4993	6774	35.7	12.6	6357	9275	45.9
Trade	339.5	81.6	3940	6249	58.6	1.4	4011	6902	72.1	17.0	3830	7524	96.4
Fin., Ins. & Real Est.	58.0	84.3	4990	7066	41.6	1.7	4811	6882	43.0	14.0	4913	7589	54.5
Service & Misc.	280.7	86.5	3990	6366	59.5	1.5	3601	5652	56.9	12.0	3350	6500	91.0

*Data Source: U. S. Department of Commerce, Bureau of Economic Analysis. Covered employment includes all civilian nonfarm industries, certain farm workers, regular domestic workers, civilian Federal employees not covered by the Federal Retirement System. It also includes, on an elective basis, ministers, employees of nonprofit institutions, and state and local government workers. It does not include railroad workers.

VI. THE SUPPLY OF HOUSING IN APPALACHIA

Over the decade of the 1960s, the supply of housing grew more rapidly in the United States than in the Appalachian Region, increasing by +17.7% (10.3 million units) compared to +11.3% (620,900 units). 53/ The slower growth performance of the Region can be explained by three interrelated factors: the significantly less rapid growth of population in Appalachia over the decade (+2.7% vs. +13.3% in the nation), indicating a much slower increase in the overall need for housing; a slower rise in total income (from 1959 to 1969, income grew by +82% in the Region compared to +94% in the nation); and a less rapid growth in total employment (Appalachia: +16% from 1962-1970; the U. S.: +18%) which, in combination with the slower income growth implies a smaller growth in the effective demand 54/ for housing.

Of the 6,124,000 housing units in existence in Appalachia during 1970, approximately 92.1% were occupied. The other 7.9% were vacant and either up for sale or rent (2.7%), used for recreational purposes or to house migrant labor and thus seasonally vacant (1.5%), or vacant on a year-round basis (3.7%) (see Table VI-A, page 130).

The number of units without some or all plumbing facilities (including toilet facilities, bathing facilities, and hot and cold running water) is often used as a rough measure of the existence of substandard housing in a given area. Applying this measure, according to the 1970 census, approximately 12.7% of all occupied housing in the Appalachian Region was classified as substandard, compared to only 7.4% in the nation.

53/ The data for this discussion was obtained from the 1960 and 1970 census of housing.

54/ Effective demand refers to the ability to purchase desired goods and services. Thus, an increase in employment and income results in an increase in effective demand.

A second important characteristic of housing is the existence of overcrowding, generally indicated by the number of units having an average of more than one person per room. According to this measure, the problem of overcrowding was not significantly worse in Appalachia than it was in the nation, where 8.2% of all occupied housing was classified as overcrowded in 1970 compared to 8.3% in the Region. This was also true in the case of severe overcrowding (more than 1.51 persons per room), a characteristic of approximately 2.1% of all occupied units in Appalachia and 2.2% of such units in the nation. However, the percent of occupied housing characterized as both substandard and overcrowded was over twice the national average in the Appalachian Region (1.2% vs. 2.6%).

A comparison of the value of owner-occupied housing and rents in Appalachia and the United States provides a further clue as to the average quality of housing in each case. However, it must be emphasized that the comparisons are distorted by the existence of significant differences in the general cost of living characteristic of individual areas. For example, a house worth $10,000 in Tupelo, Mississippi may cost $20,000 in Washington, D. C. Since cost of living indices are not available for the Appalachian Region, it was not possible to correct for differences in price-quality relationships.

In 1970, 27.4% (1,678,300) of all housing units in Appalachia were occupied by renters. In general, rents charged for housing in the Region during this year were below the national averages (see Graph VI-A, page 131). For example, approximately 57% of all rental units were priced at less than $60 per month, while only 27% of the nation's rented housing were priced below this level. Further, over 39% of all rented housing in the nation was rented for $100 or more per month compared to only 14% in the Region. Similarly, over 62% of Appalachia's owner-occupied housing was valued by the owner in 1970 at less than $15,000, while only 42% of all such housing in the nation was valued below this level. Finally, only 20% of the Region's owner-occupied housing was estimated to be worth more than $20,000 compared to 38% in the nation.

The housing growth and characteristics exhibited by each of the four Appalachian subregions differ significantly. Again, the growth in housing which did occur over the 1960s was roughly correlated with growth in population, income and employment.

Southern Appalachia produced the greatest growth in total housing in both percentage and absolute terms, increasing by over +20% or 336,700 units from 1960 to 1970. Of a total housing stock of over two million, 93.0% were occupied during 1970 with the remaining 7.0% vacant. The slightly lower vacancy rate of this subregion was partly a result of the smaller share of housing classified as seasonally vacant (see Table VI-A, page 130).

Problems of overcrowding and the existence of substandard housing in 1970 were somewhat worse in this subregion than in the Region as a whole. Of the 1,862,200 occupied housing units, 14.6% were without some or all plumbing facilities (12.7% in the Region), and 9.8% averaged more than one person per room (8.3% in the Region). The incidence of severe overcrowding was also somewhat greater in Southern Appalachia, occurring in 2.9% of all occupied housing compared to 2.1% in Appalachia. Approximately 3.4% of all units were both overcrowded and substandard. Again this is greater than the incidence of this combination in either the Region or the nation as a whole (see Graph VI-M, page 142).

A further indication of the lower average quality of housing in Southern Appalachia is provided by an examination of rents and the estimated value of owner-occupied housing (see Graphs VI-B and VI-G, pages 132 and 137). In general, both were significantly lower than the national averages and, in the case of rented units, somewhat lower than the regional averages. In this subregion, approximately 64% of all renter-occupied housing was rented for less than $60 per month, while only 12% was rented for more than $100. The relative value of owner-occupied housing as indicated by the distribution of units into various categories of estimated market value was approximately the same here as the average for the Region during 1970.

Central Appalachia experienced the least growth in housing over the decade, growing by +2.9% or 12,800 units to reach a total housing stock of 450,300 in 1970. Approximately 91.1% of the existing housing in this subregion was occupied, with the slightly higher vacancy rate (8.9%) largely a result of the higher incidence of units which were vacant all year.

Problems of overcrowding and substandard housing, as indicated by the available data, were the most severe in this subregion (see Graphs VI-K, VI-L, and VI-M, pages 141 and 142). Over 34% or one out of every three occupied housing units in Central Appalachia was without some or all plumbing facilities, and over 14% was occupied by an average of more than one person per room during 1970. Severe overcrowding (more than 1.51 persons per room) characterized 5.0% of all occupied housing compared to only 2.2% in the nation. The combined incidence of overcrowding and substandard quality occurred in 8.9% of all occupied housing in Central Appalachia, a rate of incidence almost seven and one-half times the average for the nation.

Average rents and the value of owner occupied housing were also much lower in Central Appalachia than elsewhere in the Region or for the nation as a whole (see Graphs VI-C and VI-H, pages 133 and 138). Approximately 82% of all rented housing was priced at less than $60 per month compared to 27% in the nation, while only 3% rented for more than $100 per month (39% for the United States). Similarly, 81% of all owner-occupied housing was valued at less than $15,000 compared to 42% in the nation.

The second most rapid growth in housing from 1960 to 1970 was produced by Highlands Appalachia, where the supply of housing increased by almost +16% (+97,800) to a total housing stock of 718,300 units. The vacancy rate of this subregion during 1970 was almost twice the national average (see Table VI-A, page 130), reflecting the greater incidence of year-round vacant housing (6.5% of all units compared to 3.0% in the nation) and seasonally vacant housing (5.9% compared to 1.5% in the nation). The latter is closely related to the development of the Highlands as a recreation area.

The incidence of substandard housing was not significantly greater here than in the Region as a whole, although it was higher than in the nation. The share of occupied housing characterized by a lack of some or all plumbing facilities was 13.2% compared to 7.4% in the United States during 1970. At the same time, problems of overcrowding (more than one person per room) and severe overcrowding (more than 1.51 persons per room) were not quite as great here as in the Region or the nation. Approximately 7.8% of all occupied housing was characterized as overcrowded (Appalachia: 8.3%; United States: 8.2%), while 1.8% was characterized as severely overcrowded (Appalachia: 2.1%; United States: 2.2%). The incidence of occupied units which were both overcrowded and substandard (2.4%) was below the average for the Region, but twice as high as that for the nation.

As in Southern Appalachia, rent and the estimated value of owner-occupied housing were fairly close to the regional averages and significantly lower than the averages for the nation (see Graphs VI-D and VI-I, pages 134 and 139).

Finally, Northern Appalachia experienced the second lowest percent growth in housing of the four Appalachias: the supply of housing increased by +6.2% (+173,600) from 1960 to 1970. Approximately 93.4% of the total housing stock of 2,952,200 units were occupied during 1970. The vacancy rate (6.6%) in Northern Appalachia was the lowest in the Region.

As indicated by the available data, the overall quality of housing in Northern Appalachia in 1970 was the highest enjoyed by any of the four subregions. The proportion of all occupied units lacking some or all plumbing was only 8.1% which, although higher than the national average (7.4%), was significantly less than the average for the Region (12.7%). The incidence of overcrowding was also lower here than in either the nation or any other subregion: only 6.5% of all occupied housing units were classified as overcrowded in 1970 compared to 8.3% in the Region and 8.2% in the nation. Severe overcrowding was relatively insignificant in Northern Appalachia during 1970 (1.2% of all occupied units). The percent of occupied units characterized as both substandard and overcrowded was 1.2%, the same as the U. S. average.

Finally, although the average distribution of rents and the value of owner-occupied housing was lower here than in the nation as a whole during 1970, they were the highest in Appalachia (see Graphs VI-E and VI-J, pages 135 and 140).

TABLE VI-A

HOUSING IN 1970 [a]
(thousands)

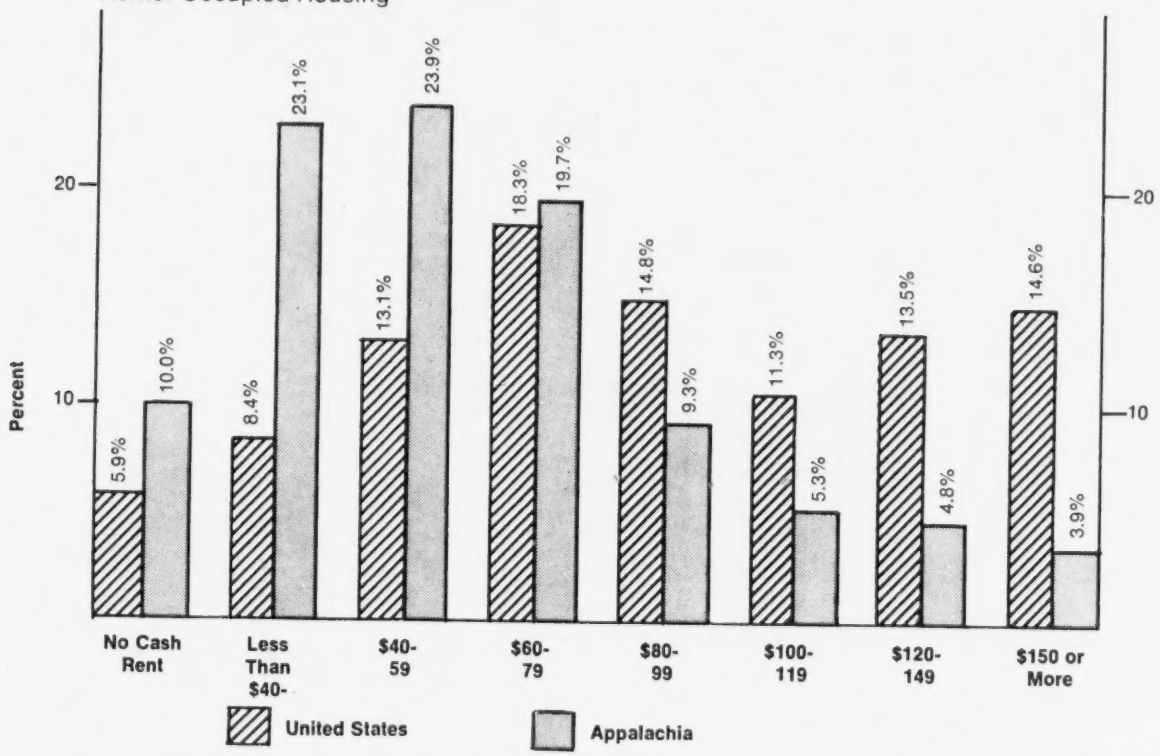
	Total Occupied Housing Units	Owner Occupied Units	Percent Owner Occupied	Renter Occupied Units	Percent Renter Occupied
United States [b]	63417.3	39862.3	58.1%	23555.0	34.3%
Appalachia	5640.0	3961.8	64.7%	1678.3	27.4%
Southern Appalachia	1862.2	1294.3	64.6%	567.9	28.3%
Central Appalachia	410.2	283.4	62.9%	126.8	28.2%
Highlands Appalachia	611.6	450.9	62.8%	160.7	22.4%
Northern Appalachia	2756.0	1933.2	65.5%	822.9	27.9%

	Vacant For Sale or Rent	Seasonal Vacant	Units Vacant All Year	Percent Units Vacant	Total Housing Units
United States	2125.9	1019.5	2064.6	7.6%	68627.4
Appalachia	167.9	89.7	226.5	7.9%	6124.2
Southern Appalachia	62.3	10.7	68.0	7.0%	2003.3
Central Appalachia	16.0	1.7	22.4	8.9%	450.3
Highlands Appalachia	17.6	42.2	46.9	14.9%	718.3
Northern Appalachia	72.0	35.1	89.1	6.6%	2952.2

[a] Data Source: 1970 Census of Housing, U. S. Department of Commerce, Bureau of the Census, Washington, D. C.

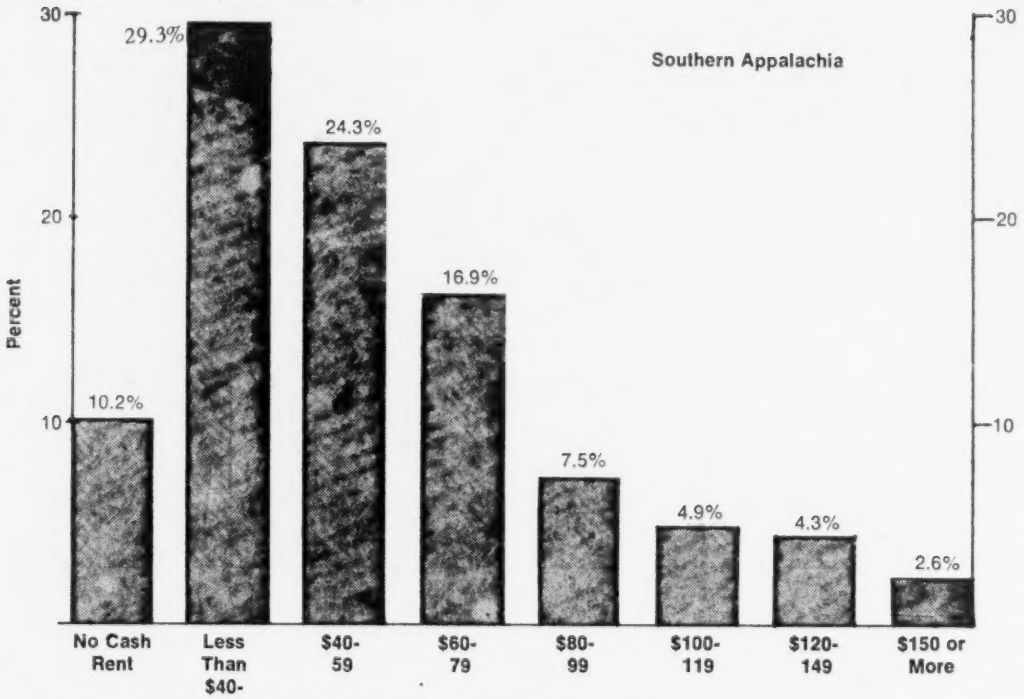
[b] Data rounded to the nearest hundred; calculations performed using unrounded data.

GRAPH VI—A
Contract Rent: Percent Distribution 1970
Renter Occupied Housing*



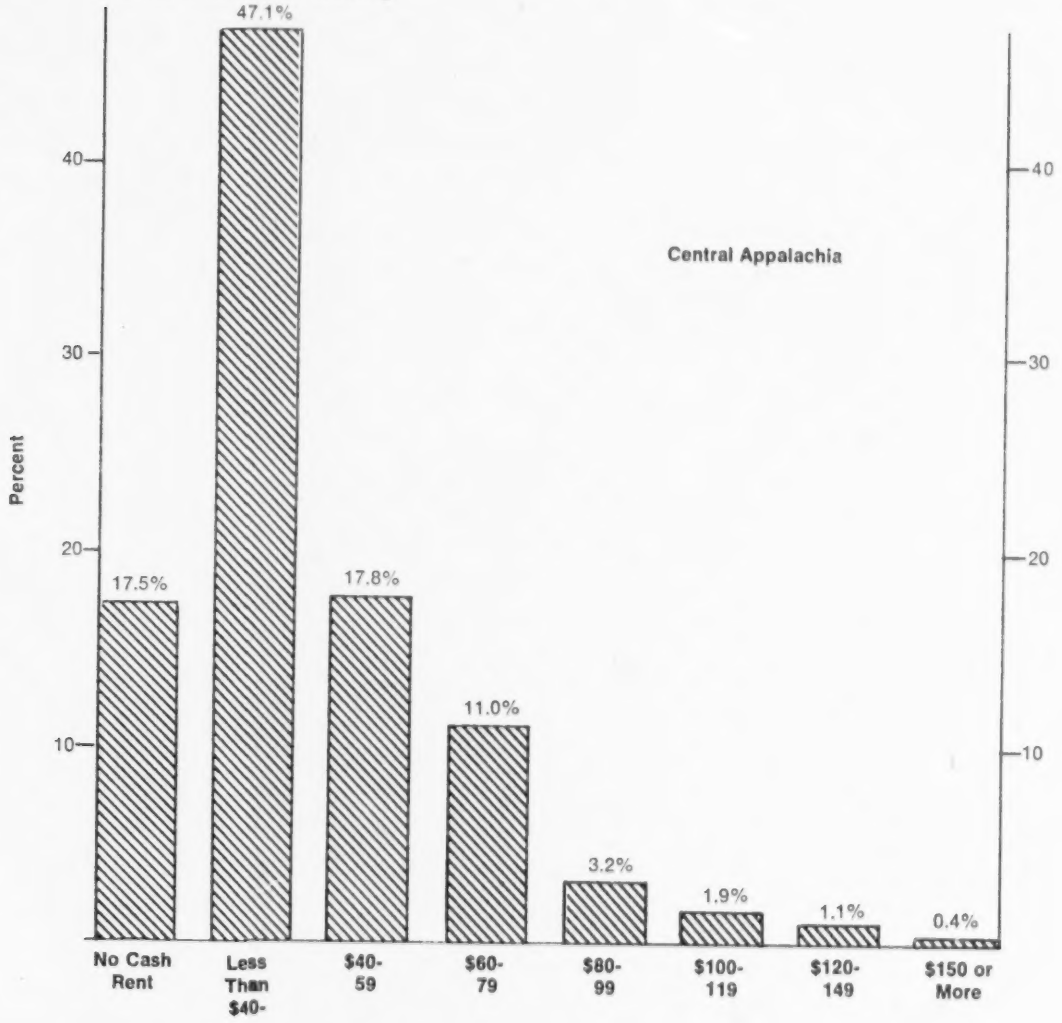
*Source: 1970 Census of Housing, U.S. Dept. of Commerce, Bureau of the Census.
Rent data was collected for 90% of all Appalachian renter occupied units. This distribution is based on that 90% and assumes that the remaining 10% is distributed in the same manner. The national distribution is based on 95% of all renter occupied units.

GRAPH VI—B
CONTRACT RENT: Percent Distribution 1970
Renter Occupied Housing*



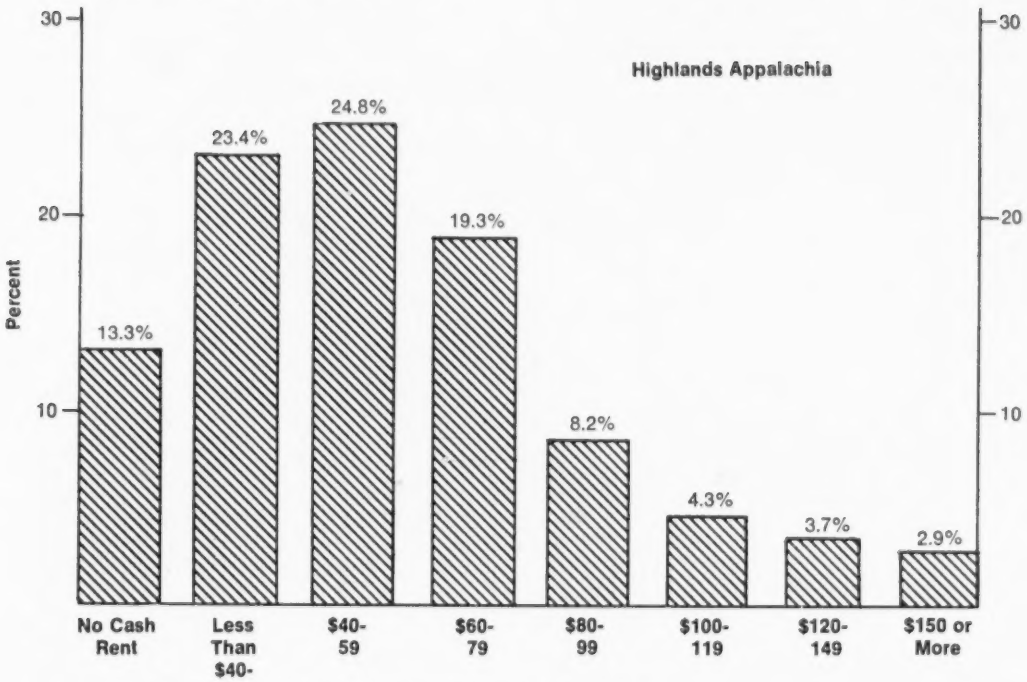
*Source: 1970 Census of Housing, U.S. Dept. of Commerce, Bureau of the Census.
Rent data was collected for 90% of all Appalachian renter occupied units. This distribution is based on that 90% and assumes that the remaining 10% is distributed in the same manner. The national distribution is based on 95% of all renter occupied units.

GRAPH VI—C
CONTRACT RENT: Percent Distribution 1970
Renter Occupied Housing*



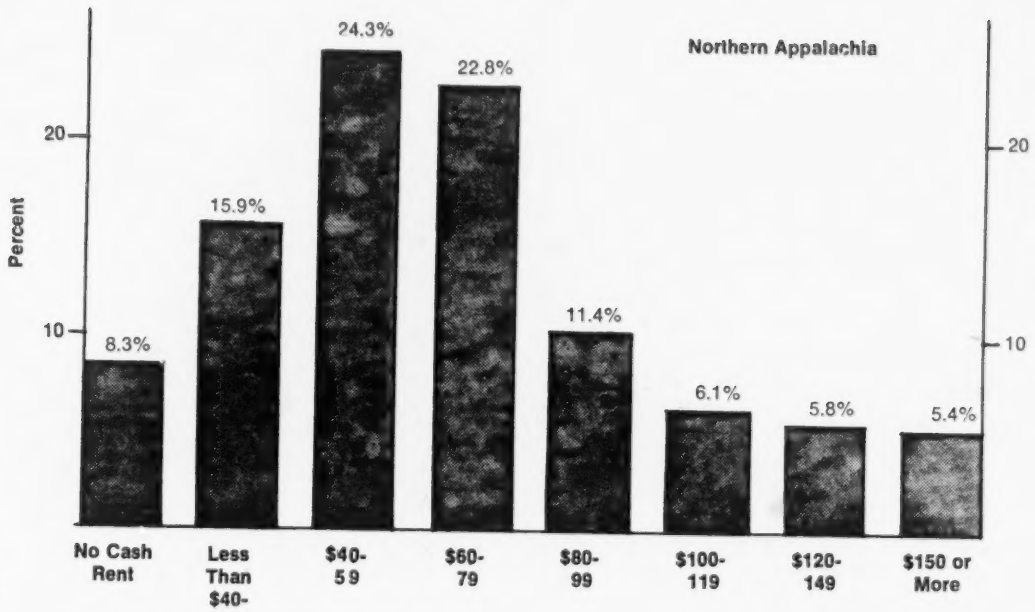
*Source: 1970 Census of Housing, U.S. Dept. of Commerce, Bureau of the Census.
Rent data was collected for 90% of all Appalachian renter occupied units. This distribution is based on that 90% and assumes that the remaining 10% is distributed in the same manner. The national distribution is based on 95% of all renter occupied units.

GRAPH VI—D
CONTRACT RENT: Percent Distribution 1970
Renter Occupied Housing*



*Source: 1970 Census of Housing, U.S. Dept. of Commerce, Bureau of the Census.
Rent data was collected for 90% of all Appalachian renter occupied units. This distribution is based on that 90% and assumes that the remaining 10% is distributed in the same manner. The national distribution is based on 95% of all renter occupied units.

GRAPH VI—E
CONTRACT RENT: Percent Distribution 1970
Renter Occupied Housing*

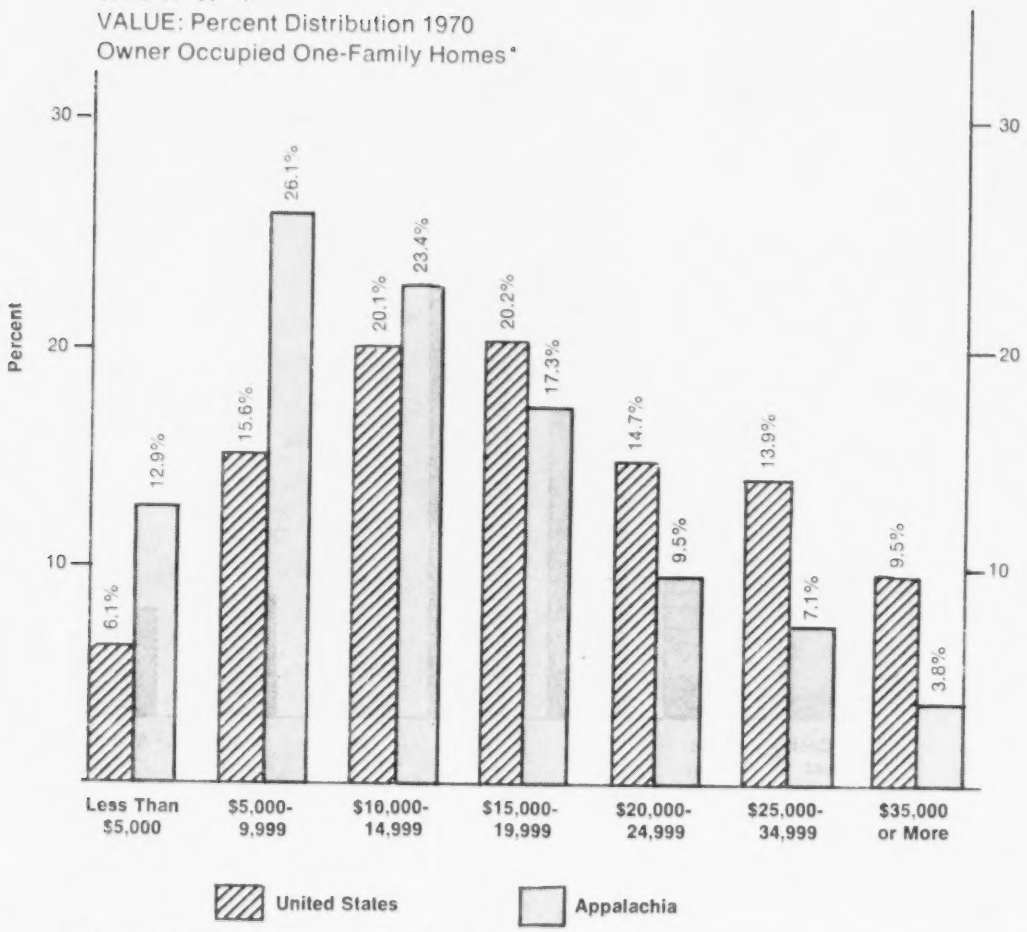


*Source: 1970 Census of Housing, U.S. Dept. of Commerce, Bureau of the Census.
Rent data was collected for 90% of all Appalachian renter occupied units. This distribution is based on that 90% and assumes that the remaining 10% is distributed in the same manner. The national distribution is based on 95% of all renter occupied units.

GRAPH VI—F

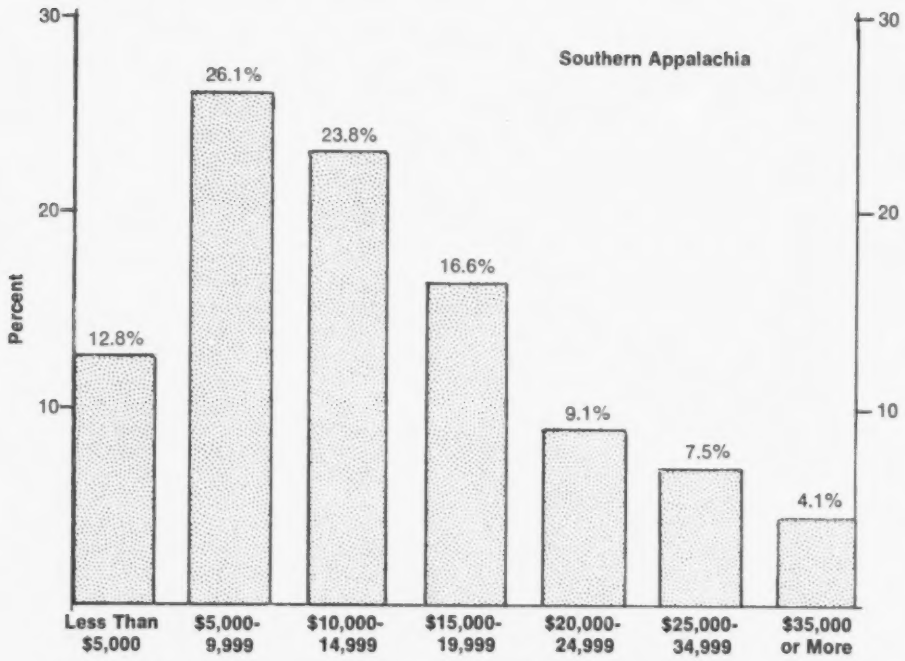
VALUE: Percent Distribution 1970

Owner Occupied One-Family Homes*



*Source: 1970 Census of Housing, U.S. Dept. of Commerce, Bureau of the Census.
Value data was collected for 75% of all Appalachian owner occupied units. This distribution is based on that 75% and assumes that the remaining 25% is distributed in the same manner. The national distribution is based on 80% of all owner occupied units.

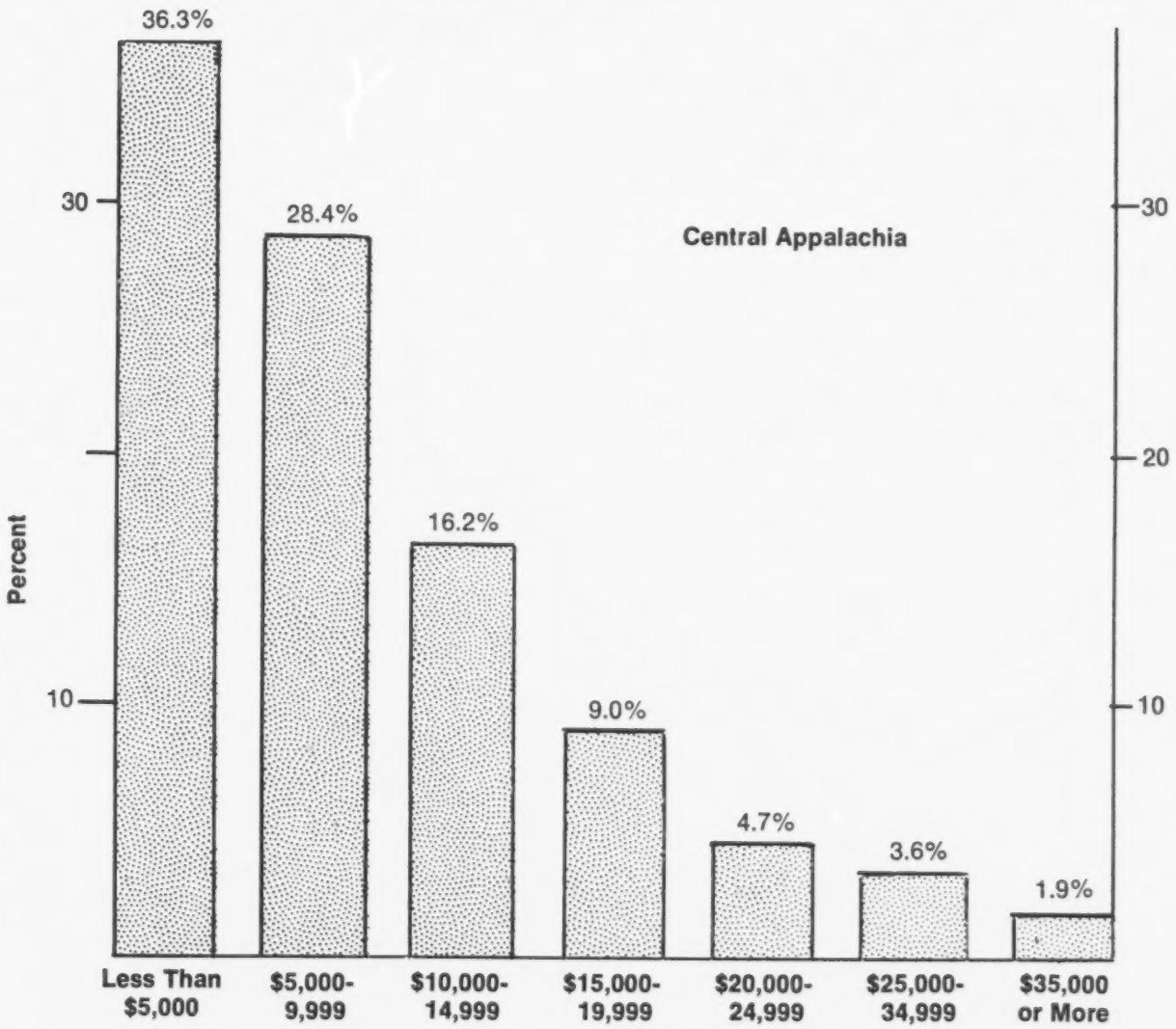
GRAPH VI—G
VALUE: Percent Distribution 1970
Owner Occupied One-Family Homes*



*Source: 1970 Census of Housing, U.S. Dept. of Commerce, Bureau of the Census.
Value data was collected for 75% of all Appalachian owner occupied units. This distribution is based on that 75% and assumes that the remaining 25% is distributed in the same manner. The national distribution is based on 80% of all owner occupied units.

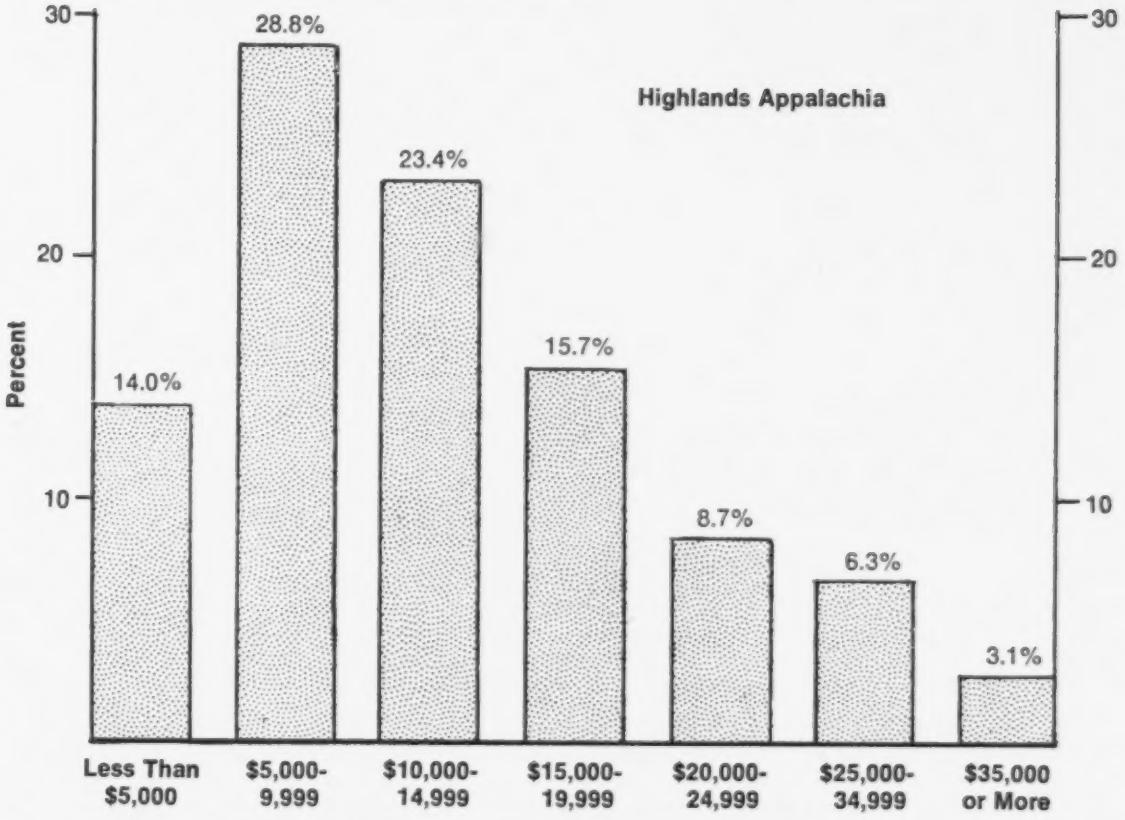
GRAPH VI—H

VALUE: Percent Distribution 1970
Owner Occupied One-Family Homes*



*Source: 1970 Census of Housing, U.S. Dept. of Commerce, Bureau of the Census.
Value data was collected for 75% of all Appalachian owner occupied units. This distribution is based on that 75% and assumes that the remaining 25% is distributed in the same manner. The national distribution is based on 80% of all owner occupied units.

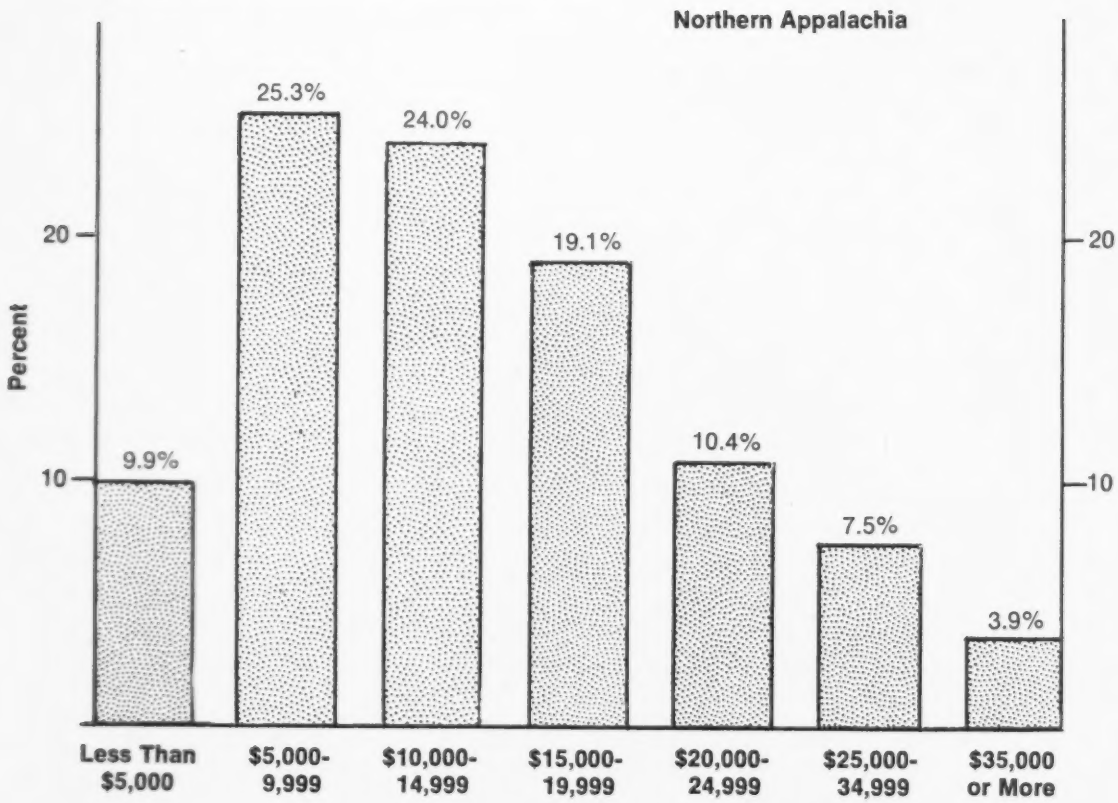
GRAPH VI—I
VALUE: Percent Distribution 1970
Owner Occupied One-Family Homes*



*Source: 1970 Census of Housing, U.S. Dept. of Commerce, Bureau of the Census.
Value data was collected for 75% of all Appalachian owner occupied units. This distribution is based on that 75% and assumes that the remaining 25% is distributed in the same manner. The national distribution is based on 80% of all owner occupied units.

GRAPH VI—J

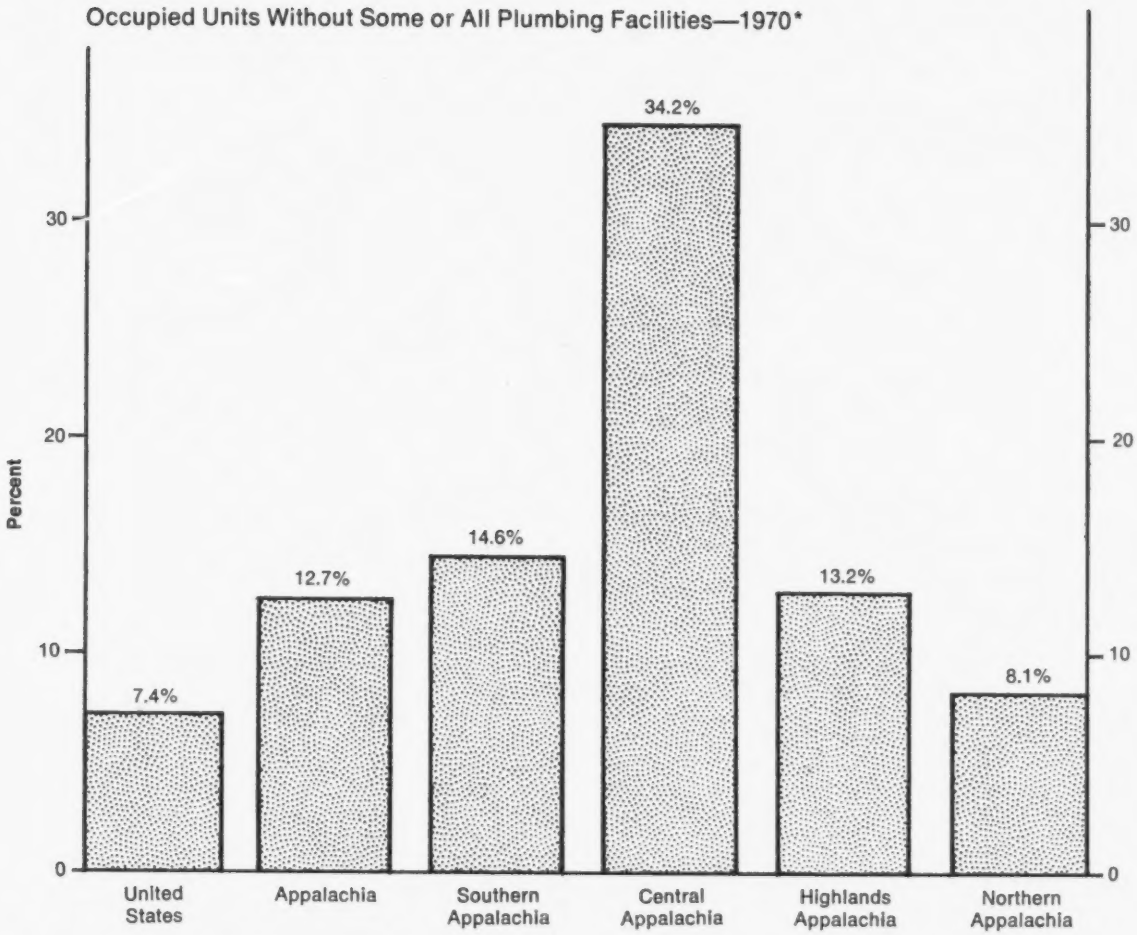
VALUE: Percent Distribution 1970
Owner Occupied One-Family Homes*



*Source: 1970 Census of Housing, U.S. Dept. of Commerce, Bureau of the Census.
Value data was collected for 75% of all Appalachian owner occupied units. This distribution is based on that 75% and assumes that the remaining 25% is distributed in the same manner. The national distribution is based on 80% of all owner occupied units.

GRAPH VI—K

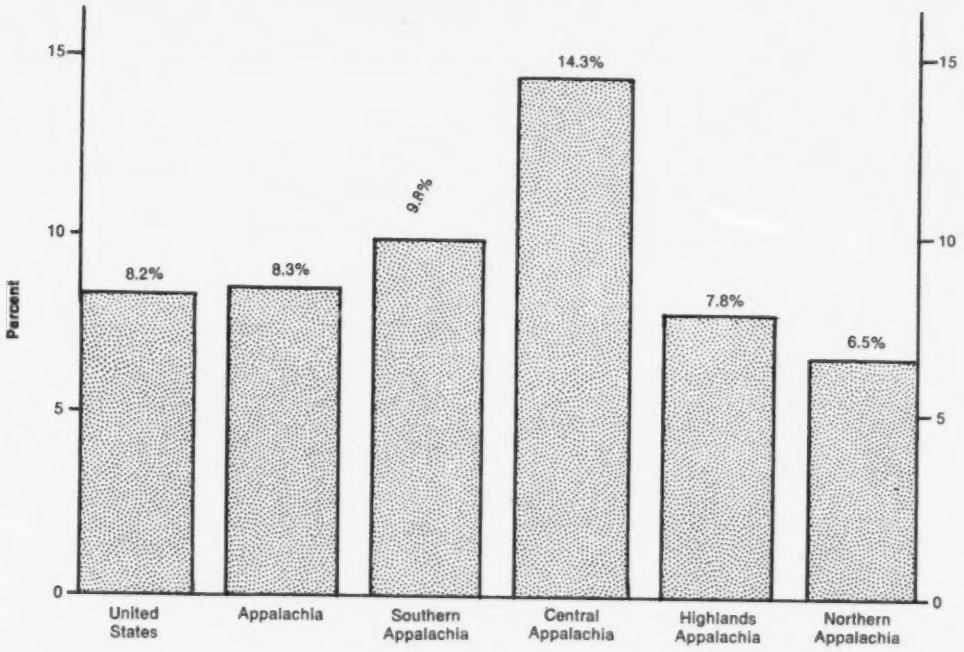
Occupied Units Without Some or All Plumbing Facilities—1970*



*Source: **1970 Census of Housing,** U.S. Dept. of Commerce, Bureau of the Census.
A unit is defined as lacking some or all plumbing facilities if it lacks one or more of the following: piped hot and cold water, toilet, bathtub. A unit is also included in this category if the toilet or bathing facilities are also used by residents of another unit.

GRAPH VI—L

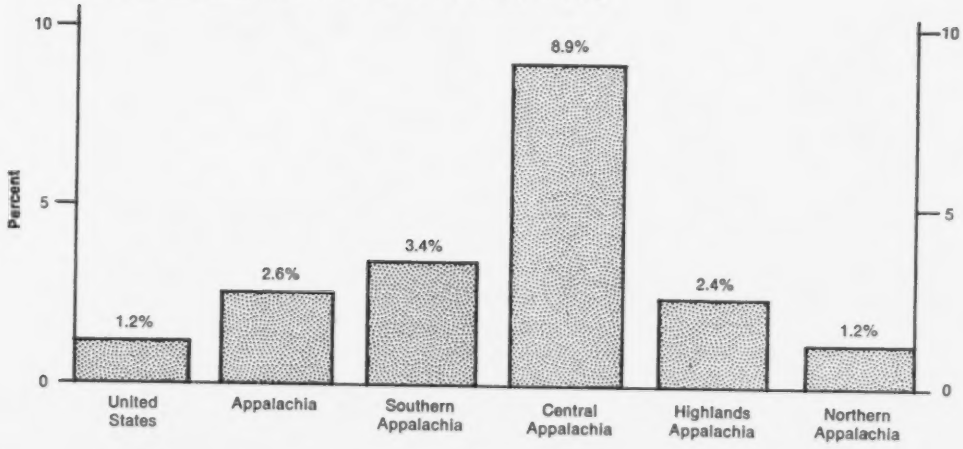
Occupied Units With More Than One Person/Room—1970*



*Source: **1970 Census of Housing,** U.S. Dept. of Commerce, Bureau of the Census.

GRAPH VI—M

Occupied Units Without Some or All Plumbing Facilities and With More Than One Person/Room—1970*



*Source: **1970 Census of Housing,** U.S. Dept. of Commerce, Bureau of the Census.
A unit is defined as lacking some or all plumbing facilities if it lacks one or more of the following: piped hot and cold water, toilet, bathtub. A unit is also included in this category if the toilet or bathing facilities are also used by residents of another unit.

VII. SUMMARY

Important economic and demographic shifts have been taking place in Appalachia and provide convincing evidence that overall conditions in the Region are improving. From 1965 to 1970, the number of jobs increased by +545,800 at a rate of +9.0%. However, the size of the work force also grew, increasing by over +576,500 people (+9.0%), with the result that unemployment rose slightly in Appalachia from 324,600 jobless in 1965 to 347,700 in 1970. In general, the rate of unemployment followed the downward trend of the nation throughout the latter half of the 1960s, falling from 5.1% in 1965 to 3.9% in 1969, and rising again in 1970 to 5.0% in response to a general national economic slowdown. In 1970, the unemployment rate in Appalachia was only 0.1 percentage points greater than the national unemployment rate of 4.9%. This is a substantial improvement over the first half of the 1960s when the incidence of unemployment was significantly higher in Appalachia than in the nation (e.g., in 1962 the unemployment rate in the nation was 5.5% compared to 8.6% in Appalachia).

However, preliminary estimates of hidden unemployment based on the 1970 census information indicate that the unemployment problem may be greater in Appalachia than is indicated by the official figures. The official unemployment rate of 5.0% in 1970 represents the difference between the number of individuals reported in the work force and the employed. Hidden unemployment refers to unemployment which exists but goes unreported because the individuals involved either never enter or have dropped out of the work force, even though they are capable of performing work. Including hidden unemployment, the estimates indicate that the unemployment rate in Appalachia may have been as high as 12% in 1970. 55/ Although this is a very rough estimate, it does point out that the unemployment problem in Appalachia is likely to be greater than that indicated by the official data and implies the existence of a fairly substantial

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55/ Comparable estimates not currently available for 1960.

reserve supply of labor potentially available for industrial and economic expansion. It also raises a number of public policy questions revolving around the reasons why work force participation tends to be lower in Appalachia than in the nation as a whole and what programs, if any, may be developed to increase participation.

In response to the latter point, there are a number of possible factors which may be encouraging relatively low work force participation in Appalachia, each of which implies a different public policy emphasis. Existing high unemployment in certain portions of Appalachia may discourage the individual from seeking work, implying the need for concentrated efforts to develop job opportunities in selected localities in the Region. A second possibility is that the individual may be discouraged from entering the work force and seeking employment due to poor health or a lack of skills appropriate to current labor market needs. Programs implied by this situation include the increased availability of health services and health education to the Region's population, and the increased provision of vocational and technical education as well as possible improvements in the basic educational system. The individual may also be discouraged from entering the work force as a consequence of his inability to reach areas where jobs are available. Many of Appalachia's rural areas are characterized by a dispersed pattern of population location which, in combination with a lack of adequate transportation, can make it extremely difficult for an individual to reach employment even in nearby towns. Policy implications here include continued improvements in primary and secondary road systems possibly combined with a rural transit system. Finally, it may be that there are many women in Appalachia who would seek employment, but cannot leave home because they must care for small children. The increased provision of adequate child care facilities would help to remedy this situation.

In response, at least in part, to the growth in employment opportunities in Appalachia, the net outmigration of workers from the Region decreased substantially in the latter half of the 1960s compared to the first half. From 1960 to 1965, the net outmigration of workers totaled -69,300 while, from 1965 to 1970, net outmigration was only -24,000 workers or approximately one-third the net outflow in the first half of the decade. Total population in the Region increased by +2.7% or +486,000 people from 1960 to 1970. This overall growth reflects a natural increase of +1.6 million people and a net outmigration of -1.1 million. Although this is substantially below the national rate of growth in population for the decade (+13.3%), it is an improvement over the Region's performance in the 1950s, when population increased by +2.0% and total net outmigration was -2.2 million or twice the net outmigration of the 1960s.

Growth in total and per capita income in the latter half of the decade reflected the growth which occurred in employment and the movement and growth of population. From 1965 to 1969 the total personal income of the Region's residents increased by over $14 billion (+36.1%), while

per capita income grew from $2,190 in 1965 (79% of U. S. per capita income) to $2,970 in 1969 (80% of the U. S. figure). Accompanying the overall growth in income, the incidence of people living in poverty in Appalachia declined significantly, from 5.4 million in 1960 (31% of the Region's population) to 3.2 million in 1970 (18%).

Finally, stimulated by the increases in population, employment and income, the supply of housing in the Region increased by +620,900 units (+11.3%) to a total of 6,124,000. Rough estimates of overcrowding and the existence of substandard housing show that the incidence of these two problems remained somewhat higher than in the nation during 1970.

Within the Appalachian Region, wide variance exists with respect to the economic structure, growth trends and stage of development characteristic of its different subregions. Therefore, the following discussion presents a brief summary of major changes in the four Appalachias.

Southern Appalachia

Southern Appalachia has grown very satisfactorily over the latter half of the 1960s. This subregion produced the most rapid and the greatest absolute increase in employment of any of the four subregions (+12.4% or +260,300 jobs), and surpassed the national growth performance by almost two percentage points. The work force also increased by +12.4% (+271,800), again surpassing the growth of the nation and other subregions. Further, Southern Appalachia has generally produced the lowest unemployment rates in Appalachia (1965-1970) and has had rates less than or equal to the national rate in four out of the last six years. The unemployment rate in this subregion was 4.3% in 1965, fluctuated between 4.2% and 3.4% from 1966 to 1969, and, reflecting the national trend, rose again to 4.3% in 1970. Preliminary estimates indicate that, in 1970, hidden unemployment was relatively insignificant in this subregion.

A major share of the employment growth in Southern Appalachia (1965-1970) occurred in manufacturing, which produced an employment growth of +18% or +122,600 jobs. Again, this was the greatest absolute increase in the Region and a higher rate of growth for the period than that of the nation. Manufacturing is relatively important as a sector of employment in this subregion, including almost half of major industrial group employment in 1970 compared to 45% in Appalachia and 35% in the nation. This type of employment remains heavily concentrated in the production of textiles and apparel, 56/ although substantial diversification into other related industries (e.g., synthetic fibers and dyes, textile machinery) as well as new industrial areas (e.g., electrical equipment and

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56/ In 1970, the textile and apparel industries accounted for approximately 40% of all manufacturing employment.

supplies, transportation equipment, other capital goods and inputs into the industrial process) has been taking place.

Significant employment growth has also occurred in retail and wholesale trade, and finance, insurance, real estate and services (FIRES). Stimulated by the strong growth in manufacturing, and thus in the demand for both business and consumer services, FIRES employment increased by almost +37% (+74,700 jobs) from 1965 to 1970. At the same time, retail trade employment grew by +21% (+43,900 jobs) and wholesale trade by +22% (15,400). Again, growth in this sector was stimulated in part by the increase in manufacturing employment. A second important factor influencing growth in the trade sectors is the movement of population from essentially rural areas into larger, more concentrated groupings. As the relocation process continues, eventually the market size necessary to profitably support retail and wholesale trade firms is attained, and the trade sectors expand. This process has been occurring in Southern Appalachia and, in combination with improvements in the transportation system (expanding the geographic area relevant to a given market), has exerted an important expansionary influence on the trade sectors.

Employment in transportation and other public utilities also grew more rapidly here than in the Region or nation. This growth can, again, be attributed to the demands of new and increasingly concentrated population centers, as well as the demands of the expanding southern manufacturing sector. Although growth in contract construction was slower here than elsewhere in the Region, the rate of growth for the period 1965 to 1970 (+15% or 12,100 jobs) was higher than that of the nation. Finally, mining, which has been relatively insignificant as an employment sector in Southern Appalachia (less than 1% of major industrial group employment in 1970), experienced a loss of employment over the period (-8% or -1,000 jobs).

Reflecting the strong growth in employment opportunities, Southern Appalachia was the only Appalachian subregion to experience a net inmigration of workers from 1965 to 1970 (+16,100 workers). Over the entire decade, this subregion produced the greatest absolute and percent growth in total population, increasing by +9.8% or +539,500 people. This growth in population was the combined result of a natural rate of increase of +11.7% 57/ or +647,700 people and a net outmigration of -1.9% (the lowest in the Region) or -107,200.

Reflecting the strong growth in employment and population, Southern Appalachia also produced substantial growth in total personal and per capita income from 1965 to 1969: total personal income grew by almost

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57/ This was the highest natural rate of increase in the Region from 1960 to 1970.

+42% or $4.9 billion, while per capita income increased from $2,030 in 1965 (73% of U. S. per capita income) to $2,800 in 1969 (76% of the U. S. average). Similarly, the incidence of poverty, although still higher than in the nation as a whole, fell from 39% of the total population in 1960 to 21% in 1970.

Finally, Southern Appalachia also produced the greatest growth in total housing in both percentage and absolute terms, increasing by more than +20% or +336,700 units from 1960 to 1970. Problems of overcrowding and the existence of substandard housing were somewhat worse in this subregion than in the Region as a whole.

Central Appalachia

An examination of growth and current conditions in Central Appalachia reveals a mixture of encouraging and unfavorable trends. This subregion produced the second greatest rate of growth in employment from 1965 to 1970 of the four Appalachias, increasing at approximately the same rate as the nation (+10.1% or +32,000 jobs). The work force, however, grew at the relatively slow rate of +6.9% or +24,600 workers. Although the unemployment rate has remained significantly higher here than in the nation or any other subregion, it declined consistently from 10.6% in 1965 to 7.5% in 1969, rising again with the national trend to 7.9% in 1970.

However, the unemployment problem in Central Appalachia is likely to be significantly greater than that indicated by the official data. Preliminary estimates of hidden unemployment show that the "real" rate of unemployment (including the hidden unemployment factor) may have been as high as one-third of the potential work force in 1970. The earlier discussion concerning the problem of hidden unemployment in the Region as a whole is particularly pertinent to Central Appalachia, where the forces discouraging participation in the work force are apparently relatively strong.

The manufacturing sector accounted for a relatively large share of growth in total employment, increasing by +8,400 jobs from 1965 to 1970 at a rate higher than that produced by any other subregion or the nation (+20%). However, manufacturing remains a relatively small sector of employment in Central Appalachia: in 1970, this sector contained less than 24% of major industrial group employment compared with 35% in the nation and 45% in the Region. Within manufacturing, employment in 1970 was heavily concentrated in areas of production often characteristic of the early stages of development: textiles and apparel; lumber and wood products; food and kindred products. This type of manufacturing often stimulates expansion into other, more complex, but related areas of production which serve as a source of supply to the existing base of industries or utilize the output of those industries in their production process. To a limited degree, this process of diversification has been

occurring in Central Appalachia as exemplified by employment growth (1965-1970) in the production of electrical equipment and supplies, mining machinery and fabricated metal products.

Throughout the period 1965 to 1970, the coal mining industry remained the largest employer in Central Appalachia and, consequently, played a significant role in the determination of overall economic trends in this subregion. From 1965 to 1969, employment in this industry continued the downward trend of the late 1950s and early 1960s (although at a slower pace), losing approximately -4,000 employees at a rate of -8%. This decline was the result of changing technology in the mining industry and shifts in demand to other sources of power causing a decrease in the need for mine workers. However, by 1970 the negative impact of technological change had tapered off and the demand for coal had increased substantially. Consequently, employment in the coal industry dramatically reversed its earlier decline, increasing by more than +3,300 jobs at a rate of over +7%. Mining is expected to continue its role as a major industry in this subregion for the foreseeable future.

Growth in FIRES was greater in absolute and percentage terms than any other major industrial group in Central Appalachia and surpassed the growth performance 58/ of this sector in every other subregion. Employment increased by over +48% or more than +13,300 jobs. This growth was roughly correlated with the strongest growth in manufacturing and the least decline in mining, implying the strongest growth in demand for services, etc. Wholesale and retail trade increased at a somewhat slower pace than in the other subregions over the late 1960s. This can be attributed to the dispersed pattern of population location, the slow trend toward urbanization and the depressive influence of the mining industry. From 1969 to 1970, growth in the trade sectors accelerated, reflecting the recovery of mining and the maintenance of positive growth in manufacturing in spite of the national slowdown.

Employment in transportation and other public utilities also exhibited a relatively moderate growth from 1965 to 1969, accelerating in 1970. This sector is subject to influences similar to those determining growth in trade. As in the other subregions, contract construction employment increased substantially from 1965 to 1969, declining significantly in 1970 along with the national trend.

In spite of the improved employment situation, the outward movement of workers from Central Appalachia increased in 1965-1970 compared to 1960-1965. Further, this subregion was the only one of the four Appalachias which experienced a decline in total population from 1960 to 1970 (-10.7% or -164,100 people). This is a moderate improvement over the previous decade when the loss in population totaled -16.2%.

58/ As indicated by the rate of growth for the period.

Central Appalachia remains the most concentrated zone of poverty within the Region. In 1970, this subregion contained only 8% of the Region's population, but 15% of all population below the poverty line. Although the incidence of poverty declined from 55% of Central Appalachia's population in 1960 to 36% in 1970, it remained by far the highest in the Region and over two and a half times the average incidence of poverty in the nation. Further, this subregion experienced the second lowest rate of increase in total income from 1965 to 1969 (+36%) and, in 1969, had the lowest level of per capita income in Appalachia. However, growth in per capita income was more rapid here than in any other subregion, increasing by +43% from $1,360 in 1965 to $1,950 in 1969.

Finally, Central Appalachia also experienced the slowest growth in housing from 1960 to 1970, as is to be expected given the decline in population and the relatively slow growth in income. Problems of overcrowding and substandard housing were also the most severe in this subregion.

Highlands Appalachia

Although the impact of the 1970 national economic slowdown was strongest on Highlands Appalachia, the overall trends experienced by this subregion present a favorable picture. Total employment and the work force both experienced strong growth from 1965 to 1969 (employment: +10.6% or +64,500 jobs; work force: +9.5% or +60,800 people), surpassing the national growth performance in each case. In 1969-1970, the work force continued to grow, but employment fell by -1% for a loss of -6,800 jobs. The unemployment situation was a combination of these two trends: the unemployment rate fluctuated between 5.2% in 1965 and 4.2% in 1969, rising to a six-year high of 6.1% in 1970. As was the case in Central Appalachia, considerable hidden unemployment existed in the Highlands during 1970. Estimates made for this area show that the actual unemployment rate may have been as high as one-fifth of the potential work force.

Manufacturing is highly important as a source of employment in the Highlands, accounting for almost 53% of employment in the major industrial groups during 1970. Employment in this sector grew relatively well from 1965 to 1970 (+16% or +32,300 jobs) surpassing both the national and average regional growth performance in spite of a sharp decline in 1969-1970 (-7,700 jobs or -3%). The pattern of manufacturing here can be separated into three quite distinct areas: the northern state areas, characterized by a relatively large and diverse manufacturing sector with heavy concentrations in the production of capital goods and inputs into the industrial processes of other industries; the southern state areas, which have a relatively large manufacturing sector very similar in structure to that of Southern Appalachia, although it is less developed; and the central state areas, characterized by a relatively small manufacturing sector concentrated in those types of production characteristic of the early stages of development (textiles, lumber, food,

etc.). The southern state areas produced a growth pattern somewhat similar to that of Southern Appalachia and produced the greatest absolute and percentage employment increase in the Highlands (+21% or +20,000 jobs). Similarly, the northern state areas followed the general trend experienced by Northern Appalachia, and produced the second greatest growth in the Highlands (+12% or +12,100 jobs). Finally, the central state areas experienced relatively little growth in manufacturing from 1965 to 1970 (+2% or +200 jobs).

Although significant growth occurred in FIRES employment in the Highlands from 1965 to 1970 (+35% or +19,900 jobs), this sector remained relatively underdeveloped compared to the nation. In 1970, FIRES included 17% of major industrial group employment in the Highlands compared to 25% in the nation. As in Southern Appalachia, this lack of development, implying the existence of an unsatisfied demand for services, etc., in combination with growth in other sectors resulting in an increased demand for consumer and business services, stimulated growth in FIRES employment over the period.

Wholesale and retail trade employment grew more slowly in the Highlands than in the nation from 1965 to 1970, remaining relatively underdeveloped. This relatively slow growth, as in other areas of the Region, is partly a result of the dispersed pattern of population location. The growth which did occur was primarily associated with trends in urbanization, increasing concentration of population and growth in manufacturing. Employment growth in transportation and other public utilities was moderate and associated with these same factors.

The construction industry, on the other hand, produced a fairly strong growth in employment, increasing by almost +25% (+4,000 jobs) between 1965 and 1970. Mining employment declined by -7% or -500 jobs in the Highlands over the period.

Partly in response to increasing employment opportunities in the Highlands, the net outmigration of workers from this area declined from an approximate loss of -10,100 in 1960-1965 to -2,700 between 1965 and 1970. Further, Highlands Appalachia produced the second largest increase in total population from 1960 to 1970 (+5.7% or +107,200 people).

Reflecting the growth in population and employment, total income grew relatively rapidly here (+41% from 1965 to 1969), surpassed only by the Southern Appalachian performance. Per capita income also rose substantially, increasing from $1,990 in 1965 to $2,770 in 1969. A further indication of the increasingly healthy economy in the Highlands is the decline in the incidence of poverty which occurred here over the decade. Approximately one-third of the Highlands total population was living in poverty in 1960 compared to less than one-fifth of the population in 1970.

Finally, in response to the increasing demands of a growing population enjoying greater income and employment opportunities, Highlands Appalachia also produced the second most rapid growth in the supply of housing over the 1960s (+16% or +97,800 units). The problem of substandard housing in 1970 was somewhat greater here than in the nation and approximately the same as in the Region as a whole. The incidence of overcrowding, however, was less severe than in either the nation or the Region.

Northern Appalachia

An examination of economic indicators over the latter half of the 1960s reveals that, although Northern Appalachia occupies a relatively satisfactory position compared to the other subregions, it has experienced a generally less satisfactory pattern of growth. From 1965 to 1970, Northern Appalachia produced a slower rate of growth in total employment and work force than any other subregion. Employment increased by +6.4% or +195,800 jobs, while the work force increased by +6.6% or +212,400 people. However, over this same period, the unemployment rate was generally lower than the regional average, fluctuating between 4.9% in 1965 and 3.7% in 1969, rising again with the national trend to 4.9% in 1970. Hidden unemployment was not as significant as in Central Appalachia or the Highlands during 1970, although preliminary estimates of this factor indicate that "real" unemployment may have been as high as twice the reported unemployment rate.

The manufacturing sector, which contained 43% of all major industrial group employment in Northern Appalachia during 1970, played a major role in determining patterns of growth in this subregion. From 1965 to 1970, this sector has been characterized by a tendency to follow the national trend in manufacturing, although it grew at a slower pace and was slightly more volatile in its year-to-year shifts. Employment in manufacturing increased by less than +5% (+43,500 jobs) for the period as a whole compared to a national growth of over +12%. That growth which did occur was in a wide range of industries.

The above pattern is not surprising, given the concentration of employment in the production of capital goods, inputs into the industrial processes of other firms, and consumer durables. The demand and thus production of these three types of products are particularly responsive to shifts in the national trend. A second important factor influencing the manufacturing sector is the technological age of many industries in Northern Appalachia. Manufacturing has been concentrated in this subregion for a relatively long period of time, implying the likely existence of a number of firms using relatively old and inefficient technologies. Such firms are the first to decrease output in an economic recession and the last to increase output in a recovery.

Employment in FIRES also grew at a slower rate for the period here than in any other subregion or for the nation as a whole, increasing by

a total of +26% or +94,800 jobs. This growth performance can be at least partially explained by two factors: the slow growth in manufacturing and thus in the effective demand for services, etc., by business and the local population; the high level of development already present in this sector compared to the other subregions, implying a lower level of past accumulated demand pressures.

The trade sectors experienced relatively moderate growth in Northern Appalachia. From 1965 to 1970, retail trade employment increased by +19% compared to +24% in the nation, and wholesale trade employment increased by +18%, the same rate as in the nation. Growth in this sector was influenced again by the slow growth in total employment and manufacturing, and the existence of an established, fairly stable pattern of urbanization. The transportation and public utilities sector is subject to influences similar to those which influence growth in the trade sectors. Employment growth in this sector was fairly low relative to the nation and other subregions (+10% from 1965 to 1970). On the other hand, employment in the contract construction industry produced a strong growth performance, increasing at a more rapid rate (+26%) than any other portion of the Region or nation in spite of a sharp drop in 1970. Finally, the mining industry lost employment from 1965 to 1970 (-7%) although, as elsewhere in the Region, this downward trend reversed itself in 1970.

Partly influenced by the slow growth in employment relative to other areas, the net outflow of workers from Northern Appalachia increased in 1965-1970 (-28,100) over 1960-1965 (-22,400). Over the decade as a whole, total population was fairly constant in this subregion. A natural increase of +7% (615,900) was almost completely offset by a net outmigration of population of -7% (-612,200).

Again, total and per capita income changes in Northern Appalachia reflected the trends in employment and population: growth in both was slower here than in any other subregion. From 1965 to 1969, total income increased by +32% or by more than $7 billion, while per capita income increased from $2,490 in 1965 to $3,290 in 1969. As is to be expected given the concentration of relatively high wage industry in Northern Appalachia and the relatively low unemployment rates, per capita income here was the highest of the four Appalachias throughout the period 1965-1969. Although this subregion lagged behind the others in the reduction of poverty over the decade of the 1960s, it did match the national performance. Further, the incidence of poverty in 1970 (13% of the population) was significantly less than in the other subregions and slightly less than in the nation.

Finally, related to the relatively slow growth in population, income, and employment, Northern Appalachia produced the second lowest rate of increase in the supply of housing over the 1960s. However, the overall quality of housing in 1970 was the highest enjoyed by any of the four subregions.

As this report shows, economic development and change have been taking place throughout the Appalachian Region. As a consequence of their heterogeneity, the growth performances of the four Appalachias have differed substantially. Southern Appalachia has produced the most rapid economic growth in almost every respect -- employment, income, population and housing. The late 1960s have been a period of continued transition here, from an agriculture and resource based economy to one characterized by an increasingly strong and diverse manufacturing sector with substantial supportive trade and service activities. Central Appalachia's experience has been a mixture of favorable and unfavorable trends. However, this subregion has also encountered the most severe barriers to growth and development and, when considered in this light, the experience of Central Appalachia provides evidence for encouragement. Recent trends show some diversification of manufacturing employment, substantial growth in the service areas, and new growth in the coal industry after many years of decline. Northern Appalachia has produced yet another pattern of change. This subregion has, in the past, formed the industrial heartland of the East. To an important degree this is till true: although Northern Appalachia has produced the slowest growth in manufacturing employment of any of the four subregions, it still contains by far the largest, most concentrated manufacturing sector. Growth in other sectors, influenced by the trend in manufacturing and the existence of a relatively stable pattern of urbanization, has also been slow. Finally, the Highlands stretches from the northern tip of Appalachia into its southern areas and contains characteristics in its northern, central and southern parts which are similar to the corresponding major subregions. Consequently, the growth trends exhibited by various portions of the Highlands have been similar to each of the other three Appalachias.

APPENDIX

SOUTHERN APPALACHIAN COUNTIES

Alabama	Bibb	Elmore	Marshall
	Blount	Etowah	Morgan
	Calhoun	Fayette	Pickens
	Chambers	Franklin	Randolph
	Cherokee	Jackson	Shelby
	Chilton	Jefferson	St. Clair
	Clay	Lamar	Talladega
	Cleburne	Lauderdale	Tallapoosa
	Colbert	Lawrence	Tuscaloosa
	Coosa	Limestone	Walker
	Cullman	Madison	Winston
	De Kalb	Marion	
Georgia	Banks	Floyd	Lumpkin
	Barrow	Forsyth	Madison
	Bartow	Franklin	Murray
	Carroll	Gordon	Paulding
	Catoosa	Gwinnett	Pickens
	Chattooga	Habersham	Polk
	Cherokee	Hall	Walker
	Dade	Haralson	White
	Dawson	Heard	Whitfield
	Douglas	Jackson	
Kentucky	Adair	Garrard	Monroe
	Casey	Green	Powell
	Cumberland	Lincoln	Russell
	Estill	Madison	
Mississippi	Alcorn	Lee	Prentiss
	Benton	Lowndes	Tippah
	Chickasaw	Marshall	Tishomingo
	Choctaw	Monroe	Union
	Clay	Noxubee	Webster
	Itawamba	Oktibbeha	Winston
	Kemper	Pontotoc	
North Carolina	Alexander	Davie	Rutherford
	Alleghany	Forsyth	Stokes
	Ashe	Henderson	Surry
	Buncombe	Polk	Wilkes
			Yadkin
South Carolina	Anderson	Greenville	Spartanburg
	Cherokee	Pickens	

SOUTHERN APPALACHIAN COUNTIES (cont'd)

Tennessee	Bledsoe	Hamblen	McMinn
	Bradley	Hamilton	Meigs
	Cannon	Hawkins	Rhea
	Coffee	Jefferson	Roane
	Franklin	Knox	Sequatchie
	Grainger	Loudon	Sullivan
	Grundy	Marion	Van Buren
			Warren
Virginia	Botetourt	Grayson	Washington
	Carroll	Pulaski	Wythe
	Floyd	Smyth	
Independent Cities:	Bristol	Galax	

CENTRAL APPALACHIAN COUNTIES

Kentucky	Bell	Knox	Owsley
	Breathitt	Laurel	Perry
	Clay	Lawrence	Pike
	Clinton	Lee	Pulaski
	Floyd	Leslie	Rockcastle
	Harlan	Letcher	Wayne
	Jackson	Magoffin	Whitley
	Johnson	Martin	Wolfe
	Knott	McCreary	
Tennessee	Anderson	Fentress	Pickett
	Campbell	Hancock	Putnam
	Claiborne	Jackson	Scott
	Clay	Macon	Smith
	Cumberland	Morgan	Union
	De Kalb	Overton	White
Virginia	Buchanan	Lee	Scott
	Dickenson	Russell	Tazewell
			Wise
Independent City:	Norton		

HIGHLANDS APPALACHIAN COUNTIES

Georgia	Fannin	Rabun	Towns
	Gilmer	Stephens	Union
Maryland	Garrett		
New York	Delaware	Otsego	
North Carolina	Avery	Graham	McDowell
	Burke	Haywood	Mitchell
	Caldwell	Jackson	Swain
	Cherokee	Macon	Transylvania
	Clay	Madison	Watauga
			Yancey
Pennsylvania	Bedford	Huntingdon	Potter
	Bradford	Juniata	Somerset
	Cameron	Lycoming	Sullivan
	Centre	McKean	Susquehanna
	Clinton	Mifflin	Tioga
	Elk	Monroe	Warren
	Forest	Perry	Wayne
	Fulton	Pike	Wyoming
South Carolina	Oconee		
Tennessee	Blount	Greene	Polk
	Carter	Johnson	Sevier
	Cocke	Monroe	Unicoi
			Washington
Virginia	Allegany	Bland	Giles
	Bath	Craig	Highland
Independent Cities:	Clifton Forge	Covington	
West Virginia	Greenbriar	Pocahontos	Tucker
	Pendleton	Randolph	

NORTHERN APPALACHIAN COUNTIES

Kentucky	Bath	Elliott	Menifee
	Boyd	Fleming	Montgomery
	Carter	Greenup	Morgan
	Clark	Lewis	Rowan
Maryland	Allegany	Washington	
New York	Allegany	Chemung	Schuyler
	Broome	Chenango	Steuben
	Cattaraugus	Cortland	Tioga
	Chatauqua	Schoharie	Tompkins
Ohio	Adams	Harrison	Morgan
	Athens	Highland	Muskingum
	Belmont	Hocking	Noble
	Brown	Holmes	Perry
	Carroll	Jackson	Pike
	Clermont	Jefferson	Ross
	Coshocton	Lawrence	Scioto
	Gallia	Meigs	Tuscarawas
	Guernsey	Monroe	Vinton
			Washington
Pennsylvania	Allegheny	Columbia	Luzerne
	Armstrong	Crawford	Mercer
	Beaver	Erie	Montour
	Blair	Fayette	Northumberland
	Butler	Greene	Schuylkill
	Cambria	Indiana	Snyder
	Carbon	Jefferson	Union
	Clarion	Lackawanna	Venango
	Clearfield	Lawrence	Washington
			Westmoreland
West Virginia	Barbour	Harrison	Pleasants
	Berkeley	Jackson	Preston
	Boone	Jefferson	Putnam
	Braxton	Kanawha	Ritchie
	Brooke	Lewis	Roane
	Cabell	Lincoln	Taylor
	Calhoun	Marion	Tyler
	Clay	Marshall	Upshur
	Doddridge	Mason	Wayne
	Gilmer	Mineral	Webster
	Grant	Monongalia	Wetzel
	Hampshire	Morgan	Wirt
	Hancock	Nicholas	Wood
	Hardy	Ohio	

EMPLOYMENT, WORK FORCE AND UNEMPLOYMENT DATA EXPLANATION

The total employment, work force and unemployment data collected by the State Bureaus of Employment Security include individual county data for all Appalachian counties with the exception of 50 counties that are grouped into 21 major labor market areas in Appalachia. In these cases, data for all counties in a single major labor market area are grouped and listed under only one of the counties. The other counties in the labor market area are assigned zero values for employment, etc. For purposes of the analysis included in this paper, data grouping by major labor market area becomes a problem only where the areas include counties from two or more of the four Appalachian subregions. In such a case, the employment, etc., of a county in, for example, Southern Appalachia will be included in the data for Central Appalachia. Although this problem leads to some amount of distortion in the data, it is not likely to be significant enough to affect trends or the conclusions of the analysis.

There are six major labor market areas (involving 13 counties) in which there are counties from more than one subregion. They are listed in the table on page A-7 along with the total employment for each labor market area, the change in total employment from 1965-1969 and the CBP employment data for each county in order to give an indication of the magnitude of error involved. An asterisk is placed by the county to which the total employment, labor force and unemployment data is allocated.

		Total Employment 1970	Change In Total Employment 1969-70	CBP Employment 1970
Penn.	*Cambria - Northern	88,000	-1,900	49,200
	Somerset - Highlands			13,300
	*Venango - Northern	27,900	+ 600	14,900
	Forest - Highlands			800
Tenn.	*Knox - Southern	165,300	-3,000	81,000
	Anderson - Central			13,800
	Blount - Highlands			14,700
	*Bradley - Southern	26,500	- 100	16,600
	Polk - Highlands			3,200
W. Va.	*Logan - Central	18,600	+ 800	9,900
	Boone - Northern			3,000
	*Greenbrier - Highlands	11,200	- 300	5,400
	Monroe - Central			400

DATA NOTES ON MAJOR INDUSTRIAL GROUP EMPLOYMENT

1. Source of data: County Business Patterns, 1965-1970, U. S. Department of Commerce, Bureau of the Census - U. S. Government Printing Office, Washington, D. C.

2. The data used in these tables represent only employment covered by the Federal Insurance Contributions Act. This includes all covered wage and salary employment of private nonfarm employers and of nonprofit membership organizations as well as all covered employment of religious, charitable, educational and other nonprofit organizations. It does not include government employees, self-employed individuals, farm workers, domestic service workers, railroad employees or employment on oceanborne vessels.

3. The data is further limited by a federal law which prohibits the publication of data disclosing the operations of an individual employer. In order to decrease the error resulting from disclosure omissions, an estimating procedure was used at the county level to estimate all disclosure items greater than or equal to 100. This allowed the estimation and consequent classification of approximately 80 percent of the disclosures.

4. Employment in agricultural services, forestry and fisheries is excluded from the detailed listing since it is relatively insignificant in quantity, but is included in the total employment figures.

5. The data for Appalachian Virginia include the independent cities of Bristol, Clifton Forge, Covington, Galax and Norton.

PER CAPITA PERSONAL INCOME FOR THE APPALACHIAN REGION
AND APPALACHIAN PORTION OF EACH STATE, SELECTED YEARS 1959-1969[a/]

	1959	1962	1965	1966	1967	1968	1969[b/]
UNITED STATES	$2,160	$2,370	$2,760	$3,970	$3,170	$3,430	$3,700
APPALACHIA	$1,680	$1,840	$2,190	$2,370	$2,530	$2,740	$2,970
APPALACHIAN PORTION OF:							
Alabama	$1,550	$1,690	$2,050	$2,190	$2,320	$2,510	$2,770
Georgia	1,430	1,600	1,970	2,170	2,260	2,510	2,780
Kentucky	920	1,090	1,270	1,390	1,500	1,700	1,860
Maryland	2,110	2,340	2,830	3,070	3,270	3,580	3,860
Mississippi	1,000	1,140	1,510	1,690	1,860	2,090	2,230
New York	2,040	2,200	2,590	2,790	2,980	3,170	3,400
North Carolina	1,490	1,700	2,040	2,230	2,350	2,600	2,850
Ohio	1,760	1,940	2,250	2,390	2,560	2,840	3,080
Pennsylvania	2,010	2,160	2,540	2,730	2,920	3,140	3,370
South Carolina	1,550	1,820	2,240	2,520	2,620	2,820	3,073
Tennessee	1,430	1,590	1,920	2,100	2,244	2,450	2,650
Virginia	1,130	1,320	1,620	1,750	1,890	2,110	2,290
West Virginia	1,600	1,730	2,080	2,240	2,400	2,550	2,740

a/ Source: Residence Adjusted Personal Income Statistics, U. S. Department of Commerce; Bureau of Economic Analysis
Population estimated by interpolation based on 1960 and 1970 Census of Population, and 1966 Census population estimates, adjusted to conform to Bureau of the Census estimates of total state population.

b/ 1969 Data Preliminary and subject to change.

June, 1972

PER CAPITA INCOME FOR APPALACHIA AND APPALACHIAN PORTION
OF EACH STATE AS PERCENTAGE OF UNITED STATES PER CAPITA INCOME[a/]

	1959	1962	1965	1966	1967	1968	1969[b/]
UNITED STATES	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
APPALACHIA	77.7%	77.6%	79.3%	79.8%	79.8%	79.9%	80.3%
APPALACHIAN PORTION OF:							
Alabama	71.8%	71.2%	74.0%	73.6%	73.2%	73.2%	74.8%
Georgia	66.2%	67.6%	71.3%	73.2%	71.3%	73.1%	75.2%
Kentucky	42.4%	46.0%	45.8%	46.8%	47.4%	49.4%	50.3%
Maryland	97.5%	98.6%	102.2%	103.4%	103.1%	104.3%	104.5%
Mississippi	46.4%	48.3%	54.5%	57.0%	58.6%	60.9%	60.2%
New York	94.4%	92.8%	93.6%	94.0%	94.1%	92.3%	91.9%
North Carolina	69.0%	71.9%	73.9%	74.9%	74.3%	75.8%	77.1%
Ohio	81.6%	81.9%	81.3%	80.5%	80.9%	82.7%	83.2%
Pennsylvania	93.0%	91.1%	91.9%	91.9%	92.2%	91.6%	91.3%
South Carolina	71.6%	76.9%	81.1%	84.8%	82.6%	82.1%	83.1%
Tennessee	66.2%	67.2%	69.4%	70.9%	70.9%	71.3%	71.8%
Virginia	52.2%	55.7%	58.7%	59.0%	59.7%	61.5%	62.0%
West Virginia	73.8%	72.8%	75.4%	75.5%	75.9%	74.2%	74.2%

a/ Source: Residence Adjusted Personal Income Statistics, U. S. Department of Commerce: Bureau of Economic Analysis
Population estimated by interpolation based on 1960 and 1970 Census of Population, and 1966 Census population estimates, adjusted to conform to Bureau of the Census estimates of total state population.

b/ 1969 Data Preliminary and subject to change.

June, 1972